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ABSTRACT

Thirteen essays discussing how teachers are trained to teach geography in various countries are presented. The papers are: "Teacher Education in Geography: The Comparative View" (W. E. Marsden); "The Training of Geography Teachers in the People's Republic of Bulgaria" (Paulina Vekilska and Dimitar Kantchev); "Note Sur la Formation des Maitres Enseignant la Geographie en France" (Jacques Bethemont; in French); "Geography and Teacher Training in Canada" (Dennis Milburn); "Educating Geography Teachers: The Experience of England and Wales" (Norman Graves); "Teacher Education in Geography: The New Zealand Model in the Eighties" (John MacCauley); "Teacher Education in Geography in the Republic of Ireland" (P. McGloin and J. Heywood); "Teacher Education for Australian Geography Teachers" (Rod Gerber); "Geography Teacher Education Programme in Nigerian Universities and Implications for Secondary School Geography" (Julie Okpala); "Geographical Teacher Education Models in West Berlin" (Joachim Barth); "Geography Teacher Education in West Germany with Special Reference to Rheinland-Pfalz" (Hans-Martin Closs); "Teacher Education in Geography in the United States" (Barbara Winston); and "The System of Preparing Students at the Pedagogical Institutes for Geography Teaching, USSR" (Lydia Pancheshnikova). (RM)

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TEACHER EDUCATION MODELS IN GEOGRAPHY: AN INTERNATIONAL COMPARISON

SØ 016 144

Edited by
Wm. Marsden
University of Liverpool

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Papers Prepared in Conjunction with the
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FOREWORD

Organizing a volume of articles such as this is a monumental task. The editor must coordinate the spatial distribution of contributing authors so that all manuscripts converge upon the same point, in this case Liverpool, at approximately the same time. Authors were requested to submit their manuscripts in an official language of the International Geographical Union, either French or English, and this necessitated that colleagues sometimes drafted materials in other than their first language. Clarification of meaning, the matching of text and diagrams, and the eventual sequencing of the manuscripts which make up the volume rounded off the project. The time passed was three and one-half years from inception to camera ready manuscript!

Mr. William Marsden has devoted a labor of love to the editing and preparation of the current volume. His commitment to geographical education at the international level permeates every editorial nook and cranny throughout the twelve manuscripts representing twelve separate and unique approaches to the preparation of teachers of geography. He dwelled upon the well being of the manuscripts as they made several trans-Atlantic crossings between Liverpool and Kalamazoo, where they were eventually typed on a word processing system under the direction of the Chairman of the Commission on Geographical Education, IGU. The Commission is indebted to William Marsden and thanks him sincerely for the splendid editorial task he has performed.

The manuscripts which make up the volume represent, in the opinion of the Chairman of the Commission, a first. In my wanderings through the research literature, I have never come across an international comparative treatment of the training of geography teachers. As I read drafts of the manuscripts, I was fascinated by the diversity in some of the teacher preparation programs, and the similarities between others. Considerable speculation regarding the diffusion, adoption, and adaption of ideas, standards, and procedures in the training of geography teachers is natural as one reads through the volume. While some of the items in the volume pose problems which must be addressed, others present enlightened suggestions for solutions to problems facing those of us concerned with the preparation of geography teachers. The volume has something to offer every reader, from the seasoned professor to the neophyte preservice teacher trainee.

The volume has a message for the Commission as well. Is the preparation of geography teachers in the international community something which we should become more involved with as an academic activity? The need for programs which enable preservice teacher preparation to attain a firm base, which permit extended training for teachers in the field, and which focus on the benefits of international cooperation and understanding seem to be a meaningful and useful agenda for the Commission on Geographical Education of IGU.

The Chairman of the Commission is fortunate that Mr. Marsden and the colleagues who agreed to contribute to the volume fulfilled that commitment. He is also fortunate that the technical aspects of the project were made manageable by the considerable amount of assistance he received at Western Michigan University in Kalamazoo. Two student secretaries, Jane Beal and Kelley Oliver, completed the initial typing of the manuscript. It was Miss Kelley Oliver who completed the final task of preparing the camera ready manuscript. I am appreciative of her commitment through systems failures, my snail-paced inspection of the manuscripts, and the dozen and one other interruptions which compounded the completion of the project. Mr. Frank Ballo and Ms. Lotta Jarnefelt completed the drafting of the figures in the volume. I wish to thank Carto-Graphic Services of the Department of Geography for their assistance.

Funding is always a concern for a project such as this. Typing and technical support were provided by the College of Arts and Sciences, Western Michigan University. The Department of Geography, Western Michigan University, provided funding assistance towards the printing of the volume through the Lucia Harrison Endowment Fund.

Errors of final copy ommission and design are the responsibility of the Chairman of the Commission, since the editor entrusted those elements of the project to me.

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June 1, 1984

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INTRODUCTION

TEACHER EDUCATION IN GEOGRAPHY: THE COMPARATIVE VIEW

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Any attempt to draw together the threads of a collection of essays from many different countries, such as follows, must necessarily be preliminary and hesitant. No confident conclusions can be advanced, nor ways forward prescribed. For one reason, the sample of countries is small as compared with the whole, the selection to some extent a chance one, with an overall imbalance: Anglophonic and Eurocentric. For another, the view from each country is a personal one, with little editorial wish to constrain the structure and emphasis of each piece within the main theme. This introduction is therefore no more than a broad and somewhat distanced summary of a series of individual summaries, and can claim no first-hand authority, one of the occupational hazards of comparative study.

None the less, it seems worthwhile to attempt such a summary, however broad. One justification is that shared concerns may be highlighted in the event that these shared concerns emerge more strongly than the different approaches to teacher education in geography. A second justification is that while no confident predictions can be made, such an overview, however impressionistic and fragmented, may be suggestive of ways forward to further comparative research and, hopefully, to the academic cooperation that it must be a central objective of the International Geographical Union to stimulate. A final cautionary note is that this is a subjective and selective summary, so that, to avoid the risk of distorting individual views, the key ideas which appear to cross national boundaries are not here exemplified from the specific papers.

Shared Perceptions and Concerns

1) The Social Context

A strong impression emerges from the papers that teacher education in geography is closely affected by the social and political context in which it finds itself, and at the same time is expected to make a contribution to that context. In some countries, what might be termed the 'demographic imperative' looms large, that is, the impact on teacher education of falling rolls in schools as a result of a lower population cohort in a particular age band. Where the stage of universal school provision has not been reached, however, there is likely to be potential for growth in enrollments and a demand for more teachers.

On the side of its contribution to society, teacher education in geography is variously seen as aiding national development, heightening awareness of the resource problems facing humankind through its environmental education component, and of the social issues of multi-cultural societies, exemplified by pleas for a moral or values education component in teacher education programmes in geography.

2) The Influence of the Discipline

There is a widespread view that changing trends at the frontiers of the discipline should rightfully and closely influence the content of teacher education in geography. In some cases geography is fairly and squarely seen as a science, which can reasonably directly and valuably be 'applied.' In others, much attention is given to the changing, overlapping and less than well focused 'paradigms' of geography, and how these might impact upon geography in teacher education and in schools. Some contributors have pursued the detail of the consequent problems of selecting the geographical content required for curriculum planning.

3) Pedagogical Issues

Much of the discussion here relates to the influence of 'curriculum thinking' and other educational variables. The problem is seen as involving a synthesis of the different and sometimes apparently conflicting variables. How far, for example, can the aim of 'developing the whole person' (whether student teacher or pupil in school) be matched with social objectives? How are theory and practice most fruitfully linked? To what extent can and should prior school experience be used as a baseline from which theoretical constructs can be drawn? Or should a firm theoretical structure be erected against which to benefit from experience?

Some contributions draw attention to detailed aspects of pedagogical training, such as the development of learning strategies. More generally, the point is made that we suffer from a lack of a general didactical theory of geography teacher education. Implicit in the papers is a spectrum of views: from the more prescriptive end, which suggests that there are ready made models derived from experience against which student teachers might test their achievement; to the more permissive end, which believes that the art is about educating student teachers to make critical choices between different modes, absorbing these, eclectically, into a personal scheme of thinking and performing.

4) Structural Issues

Where there seems most difference is in the organizational structures of teacher education in various countries. A prime concern lies in the relationship between the dissemination of geographical content and of pedagogical skills. In some systems, the boundaries between the two are firmly drawn. In others the division is more blurred. There would seem a strong case for looking for a concordance, preparation in the discipline and in pedagogy, both equal in importance and in status in contributing to the growth of the student. Where there is a discordant gulf, it may be not only organizational, but one of status, with the basic discipline accorded high esteem, and its educational component lower.

Different problems of course emerge from the various organizations of school systems and of geography in schools. Clearly where teacher preparation is for the first phase school, the place of geography in the training scheme will be less than central. At the secondary level, there appears a difference between those systems preparing for comprehensive schooling, and those for a divided grammar school/secondary modern school (in English parlance) system. In the former case greater attention is given to developing skills in the discipline; in the latter to developing general pedagogic skills.

Another differentiating factor is the status of geography itself as a school subject. Where it is subsumed within an integrated social or environmental studies programme, there is less perceived need for subject specialist teachers, and a greater emphasis is given to more general development of pedagogic skills. In these cases, teacher educators in geography are placed in a weak position, and it is in these circumstances that research in the area tends to be ascribed a low rating.

Concluding Comment

On one matter there is no argument, and that is professional concern to produce high quality teachers, in terms of range of skills and commitment, whatever the model of teacher education in use. Where, either through lack of resources resulting from economic under-development or, increasingly frequent in so-called 'developed' economies, a policy of government 'cuts,' there is a threat to the fabric of teacher education, not least through the over-burdening of an already depleted work-force, and the demoralizing of students through limited job prospects, heavily clouding over what hitherto had been a relatively bright picture of geography teacher education establishments in so many countries that had achieved success in their own sphere and ranked also as among the more progressive influences in the general area of curriculum change.

THE TRAINING OF GEOGRAPHY TEACHERS IN THE PEOPLE'S REPUBLIC OF BULGARIA

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Introduction

Great importance is attached to the problems of training teachers (geography teachers included) in the People's Republic of Bulgaria. The directions for their education are given in a series of state documents. The basic one is "Theses For The Development of Education in the People's Republic of Bulgaria." It points out that the main aim of the Unified Secondary Polytechnical School (U.S.P.S.) is to produce multi-faceted and, for the future, universally developed personalities that are capable of full value realisation in life. This cannot be achieved without a decisive improvement of teacher education. Moreover, in the new U.S.P.S., geography will be not only a compulsory but, also a freely optional subject in the tenth and eleventh forms. Education of teachers in geography is closely connected with the development of geographic sciences as well as with social demands. Geography affirmed its position as a reforming, forward-looking and constructive science in the seventies. It solves problems that are connected with the newly appreciated world-wide ecological situation and with the proper organization of natural-territorial and territorial-production complexes. A number of changes in working conditions are also taken into consideration when educating geography teachers. The geography teacher must be scientifically well-grounded. He must also introduce in a creative way the achievements of geographic sciences, psychology, pedagogy and methodology of teaching. Geography teachers have to be skillful in using modern educational equipment and they have to possess the practical skills necessary for field lessons and studying the native land, etc. They have to cultivate in their students patriotism and internationalism and to contribute to the formation of a dialectical and materialistic view of life and moral virtues. Teachers should work for the all-around development of a student's personality. These requirements underlie the whole system of training of geography teachers in the People's Republic of Bulgaria.

Short Historical Review

Geography was introduced in Bulgarian schools in 1835. The teachers were non specialists until the liberation of Bulgaria from the Turkish yoke in 1878. A geography department was established at Sofia University in 1897-1898. Professor Anastas Ishirkov was its first and long-standing leader. It was from this time on that education of geographers (who afterward were employed as secondary school teachers) began. University lectures gave them the scientific basis and they acquired theoretical and mainly practical skills necessary for teaching at the Probationer's Institute. They sat examinations in pedagogical disciplines in this institute. The students graduated with a state examination, obtaining the teacher's certificate. This procedure continued until 1950. Pedagogical and methodological disciplines, theoretical and practical, have been included in the University course since 1951.

There are several disciplines, studied consecutively, in the education course as a whole. These are: pedagogical psychology, pedagogy, and methods of teaching geography. The practical preparation is realized through observing lessons, trial lessons and pedagogical probation during the last terms.

System of Training Geography Teachers

In the People's Republic of Bulgaria, geography teachers receive higher education only in the Sofia University "Kliment Ohridski." There are also colleges for such teachers in the towns of Smoljan, Kirdjaly and Silistra, but they receive a college education only at those centers.

The teachers of geography that have graduated at Sofia University have also a second subject, either history or a foreign language. A college graduate has the right to teach in three subjects. College graduates teach mainly in schools with a small number of classes. Teachers with college education are in the majority, with the exception of Sofia and the other big cities. State policy is directed at increasing the proportion of teachers with higher education. That is why all teachers with college education, not older than 45, are now given the opportunity to take an external degree at accelerated rates (studying only the subjects that they have missed in the college).

A short time ago the geography education course in the University used to be 4 years long. Because of the higher requirements since 1978, it is now 5 years in duration. In the new syllabus, stress is put on the theoretical basis, modern ecological problems and the length of the practice teaching (8) weeks. The system of training geography teachers with higher education can be seen on the following scheme (see Figure 1).

In the first stage of training (I-IV terms), called basic training, the fundamental geographical schooling of future teachers is carried out. During this stage students attend most of the basic geographical courses: geomorphology, cartography, climatology, hydrology, science of landscape and environment, geography of population and settlements, geography of production, etc. They attend the necessary courses for general education too: outlines of geology, mathematics, dialectical and historical materialism, political economy, etc. During the second year at the University the systematic pedagogic training starts, when students study pedagogical psychology. The basic instruction in geography continues through the next stage with several courses.

The educative practice during the first stage has primarily an excursional character. The visual acquaintance of the students with the geographically most interesting territories of the country, such as the Black Sea coastline, the Danube riverside, the Rila and Pirin districts, the Rodopes, etc., is provided by a system of well-chosen itineraries to natural and industrial sites. Some stationary educative practice courses are conducted, involving short stays at, for example, climatological or hydrological stations, or economic establishments.

During the second stage (V-VII terms) some profiling of the training is carried out. Three profiles are established: physical geography, economic geography, and the geography of tourism. Students continue attending several

Figure 1
Strucure and Contents of the Training
. of Geography Teachers with Higher Education
in the P.R. Bulgaria

III stage	X	Technical aids (30 hours)	Practice Teaching in Geography Practice Teaching in Second Subject	(8 weeks) (4 weeks)
	IX VIII	Methodics of teaching geography 2+0; 3+[illegible]	Specialized teaching- Geomorphology and cartography, hydrology and climatology, landscape and ecology, population and settlements, branches of economy and economic complexes, countries and tourist resources	Observing lessons end Second practical training
II	VII VI V	Pedagogy 2+0; 2+2	Profiles physical geography, economic geography, geography of tourism	Educational excursions and stationary practice First Practical Training
I stage	VII III II I	Pedagogical psychology 2+0; 2+0	Basic Education	
	Terms	Pedagogical subjects	Geographical, general and ideological subjects	Educative practice

basic geographical courses (Physical Geography of Continents, Economic Geography of Countries, Physical and Economic Geography of Bulgaria and others), but the main content of the second stage is realized by the special courses. Physical geography, for instance, includes these courses: quaternary geomorphology, geomorphology of Bulgaria, climatology of Bulgaria, hydrology of Bulgaria, etc.; economic geography includes territorial planning, population and settlement systems in Bulgaria, branches of the national economy, economic regions, etc.; geography of tourism includes outlines of leisure, the tourist economy and organization of tourism, the geography of leisure and tourism in Bulgaria, etc.

During this stage pedagogic training for the three specializations continues. Students attend a systematic course of pedagogics. The students of geography of tourism (they know two foreign languages) prepare for teaching primarily in Russian, English, German and French language schools. Such schools are found in almost every administrative county in Bulgaria. There most of the subjects are studied in the particular language. The educative practice has mainly a stationary character. In connection with the course of Geography of Bulgaria in the sixth term, a complex 10-day educative-excursional practice is provided which covers the greater part of the country. Educational visits are carried out abroad, too. They are based on exchange with foreign higher educational institutes. Such have already been conducted in the Soviet Union, Poland, Czechoslovakia, Hungary, the Federal Republic of Germany, and others.

During the eighth and ninth terms, specialized training is the main undertaking and it includes geomorphology and cartography, hydrology and climatology, science of landscape and environment, population and settlement, economic branches and complexes, and geography of countries and tourism. But at this stage some courses of the profiling training are attended as well. Simultaneously the pedagogic instruction of the students is developed by a systematic course of methods of geography teaching. An educative practice is conducted in school where students perform their first lessons. A second practical training is carried out in summer at different institutions.

Thus geographers at the University are prepared both for becoming teachers and officials in different establishments and institutions. Having in mind that more than 90% of them become geography teachers, it is necessary to increase the pedagogical aspects of their preparation, with the lectures in the basic subjects being linked to a greater extent with the students' future activities as teachers. This is designed to improve their psychological adjustment to pedagogical work. It is necessary that the practical lessons should be better coordinated with educational materials (connectional programmes and textbooks) for secondary schools. The preparation of students in the pedagogical disciplines also has its own problems.

Priority is given to the practical pedagogical knowledge which is directly connected not only with future class lessons and out of class activities of the teacher of geography, but also with his activities as a form master, his work with pupils' organizations, with parents, etc. The methodological training is the basic unit in the system of pedagogical training. It is necessary that its content should be enlarged and the time for teaching practice should be increased as well. It has been decided to set up a Probationers' Institute of a new type, whose actual implementation remains under discussion. The new institute will create better conditions for the raising of the level of the pedagogical training of the students in geography as future teachers.

The educational process of geography at Sofia University is organized in such a way that it requires maximum activity and self-organization on the students' part, rhythm in their preparation in the different subjects, systematic work in and outside the University, and creativeness. The educational process is conducted not only in lecture-halls (lectures, seminars, practical and laboratory lessons), but also through organized out-of-class activities. They occupy nearly 40% of the students' working day.

Another characteristic feature of the education in geography is various educative practices: excursional, stationary and practice teaching. These take place mainly at the end of the year, according to established programmes, and form an important element of the educational system. Teacher education is also represented in other formats, such as circles, groups for scientific research, clubs, etc.

Improving the Qualifications of the Teachers of Geography

In the People's Republic of Bulgaria special attention is paid to the improvement of teacher qualifications including those in geography. This is impelled by a situation in which, on the one hand, the sciences are developing at a great speed, which demands a regular renovation of knowledge, and on the other hand, rapid economic and social development of the country is taking place. So teachers face the solving of new problems, and the introduction of new technologies of education. As the majority of the teachers in this country have a college education only, (in order to improve their qualifications) the Ministry of Education has established 3 teachers' qualification centres in the towns of Sofia, Varna and Stara Zagora. According to the decree N 21 of the Council of Ministers of 7.II.1973, post-graduate qualification of teachers with higher education is conducted in the University (for teachers of geography in the geology-geographical faculty) and, for those with college education, in the teachers' qualification centres. In 1976 a Centre for the post-graduate qualification and improvement of teachers in Sofia was established. The post-graduate qualification in all these units is conducted mainly by means of one-month brushing up courses. The programmes of these courses include themes in geographical method, pedagogy, psychology and practical work.

Long-term (one-year) specializations in the methodology of geography teaching have been conducted at Sofia University since 1979. These specializations are carried out every year with groups of 10 members: teachers of geography from all parts of Bulgaria. They are financed by the state.

The post-graduate students acquire a sound knowledge of the methods of teaching, of the basic problems of geographical and pedagogical sciences and also of methods of scientific research. The courses end with an elaboration and defence of a thesis. The best of these theses develop into dissertations for a master's degree. The teachers who have graduated in the one-year specialization with marks higher than 4.5 on the six-point working system, win the right of a second-class qualification, which is connected with an increase in their salaries. Those teachers, having returned to their schools, become as a rule front-rankers in their profession and contribute to the raising of the quality of teaching geography in their respective regions.

Problems in the Training of Geography Teachers

The following problems are outlined in connection with the improvement of teacher training in geography:

1. Introduction of changes in the content of education with the object of reflection on new directions in the development of geographical science, involving a closer correlation between physical and economic geography. Greater attention should be paid to those branches of science whose fundamentals are studied at school.
2. A closer integration on school practice of the separate branches of the science of geography, and practical work, for which a provision is made in the programme of studies of geography at the Unified Polytechnical Secondary School. In this way, future teachers will be better prepared for carrying out the programme of studies not only in the respect of geographical knowledge, but also of practical abilities as well.
3. Improvement of the pedagogic and methodological preparation of the students. The applied character of the readings in psychology and pedagogy need to be increased. The volume of pedagogic preparation needs to be enlarged and the time extended for the pedagogic practice teaching. Towards this aim, the form, content and organisation of a new type of Probationer's Institute are under discussion, whose goal will be to create more favourable conditions for the preparation of students as teachers in geography.
4. Improvement of the material and technical base of the tuition. In this way, the educative process will be more effective on the one hand, and on the other, the students will be more fully prepared to use up-to-date school aids in teaching geography.
5. Improvement, optimization and intensification not only of the scientific and professional preparation of the students in geography, but also of their all-round and harmonious development as persons.
6. Improvement of the graduation qualification and specialization, as well as work with teachers receiving in-service or extra-mural higher education. The ultimate goal is to produce teachers who are theoretically and practically well prepared to teach geography in Bulgarian schools. The tendency is towards a raising of the educational qualification. Only university graduates will, in the future, be teachers of geography in Bulgaria.

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NOTE SUR LA FORMATION DES MAITRES ENSEIGNANT LA GEOGRAPHIE EN FRANCE

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Depuis la définition des programmes de l'enseignement secondaire par Levasseur en 1873, la Géographie figure comme matière obligatoire aux divers niveaux de l'enseignement français, associée à l'Histoire. Cette situation privilégiée implique la formation - en collaboration avec les Historiens - d'un corps professoral important. Il s'agit là d'une mission importante pour les Universités, au même titre que la recherche ou la formation professionnelle hors enseignement. Mais l'accomplissement de cette mission n'est pas exempt de pesanteurs, d'ambiguités et d'insuffisances sur lesquelles nous nous efforçons d'attirer l'attention des Universitaires depuis quelques années.

1. Pesanteurs d'une tradition

L'un des objectifs fondamentaux des programmes ayant toujours été la reconstitution du continuum temps/espace, l'enseignement de la Géographie est traditionnellement associé à celui de l'Histoire. Cette discipline tient donc une place relativement importante dans la formation des maîtres qui se spécialisent en Géographie. Nul ne s'en plaint, l'Ecole française de Géogrphie tirant de cette association une bonne part de sa spécificité. Tout ayant été dit sur ce point et sur l'orientation humaniste qu'il implique, nous nous bornons à rappeler quelques incidences de cette situation, notamment:

- l'insertion de la Géographie dans des lieux d'enseignement où dominent les disciplines littéraires;
- l'éloignement corrélatif, donc les difficultés de contact avec les lieux où dominent les disciplines scientifiques.

Cette situation, sans infléchir nécessairement certains développements de la discipline en direction de l'étude du milieu naturel ne les a pas faciltiés, qu'il s'agisse de la nécessaire collaboration avec les naturalistes ou de l'équipement informatique, longtemps jugé peu utile dans un environnement plus littéraire que scientifique.

2. Déficiences du recrutement

Dans l'enseignement primaire (classes d'âge de 6 à 11 ans) il n'existe ni programme de Géographie défini, ni enseignants spécialisés. La Géographie est enseignée soit à travers l'étude du milieu (la rue, la ville), soit à travers l'étude de centres d'intérêt (la faim dans le monde, l'énergie) et les maîtres reçoivent en fonction de ces orientations, une formation sur laquelle nous reviendrons. Qu'il nous suffise pour l'instant de constater qu'une formation spécifiquement géographique mais de niveau simple, est toujours intégrée à leur formation professionnelle.

Il n'en va pas toujours de meme dans l'enseignement secondire, notamment dns le premie cycle (classes d'age de 12 a 15 ans) ou l'enseignement de la Geographie est dispense au mieux par des Historiens/Geographes, souvent par des maitres ayant une formation litteraire ou linguistique, voire par des enseignants sans qualification universitaire. L'hete'rogeneite de ce corps professoral est encore accrue par l'incorporation de nombreux maitres issus de l'enseignement primaire.

La situation est nettement differente dans le second cycle de l'enseignement secondaire (classes d'age 16 a 18 ans) ou la qualification universitaire dans la discipline enseignee semble a peu pres de regle.

Une evaluation a l'echelle nationale rends bien compte de ces donnees en fixant a 30.000 le nombre des enseignants en Histoire-Geographie pour l'ensemble de la France, dont 13.000 specialistes contre 18.000 enseignants polyvalents regroupes dans le corps des Professeurs de l'Enseignement General court. Toutefois, cette opposition entre specialistes et non specialistes doit etre nuancee, puisque le quart des P.E.G.C. a recu une formation universitaire en Histoire-Geographie.

Ces donnees generales ont ete confirmees par des enquetes regionales plus precises. Celle qui a ete effectuee dans la region de Lyon a donne les resultats suivants:

- 1er Cycle: 590 enseignants en Histoire-Geographie dont:
  - .215 specialistes dans la dicipline (35%)
  - . 66 specialistes dans d'autres disciplines (Lettres, Langues, Economie (11%)
  - . 70 ayant recu un debut de formation universitaire (29%)
  - .149 sans formation universitaire (25%)
- 2e Cycle: 192 enseignants en Histoire-Geographie dont:
  - .171 enseignants specialises (90%)
  - . 21 enseignants non specialises et qualifies.

On retiendra de ces chiffres, l'importance de la distorsion entre fonction et qualification. Cette distorsion peut s'expliquer par le fait que le service d'un enseignant qualifie compte moins d'heures de resence pour un traitement plus eleve que celui d'un enseignant non qualifie. Sans porter un jugement definitif sur cet etat de fait, force est de constater l'etrangete de la situation: l'Universite forme des specialistes qui ne sont pas recrutes aux fins d'enseignement, celui-ci etant assume de preference par des non specialistes. Il va de soi que ce constat pose egalement le probleme de la formation continue des maitres, en fonction de l'insuffisance ou meme de l'absence d'une formation initiale.

3. Les Ecoles Normales: un modele de formation pour les non-specialistes

Les instituteurs, responsables de la formation des classes d'age 6-11 ans recoivent dans les Ecoles Normales d'Instituteurs, une formation polyvalent axee sur les apprentissages fondamentaux et leurs modalites de transmission a l'enfant. Dans l'etat actuel - c'est-a-dire depuis 1979 -la Geographie est dispensee sur trois niveaux:

- au niveau le plus simple, comme discipline fondamentale, enseignee par un corps de professeurs specialises. Ceux-ci soulignent volontiers le caractere irrealiste de programmes aussi amples que disperses ou l'on retrouve, a faible dose, tous les themes de la discipline, depuis l'environnement jusqu'a la Geographie des transports. Sollicites par bien d'autres matieres, les futurs instituteurs depassent rarement un niveau formel de connaissances.

- au niveau superieur, comme matiere optionnelle, portant sur deux ou trois themes traites en une annee, a raison de trois heures de cours hebdomadaires, soutenus par plusieurs heures de travaux personnels et de mise en oeuvre didactique. L'enseignement est dispense simultanement par les professeurs d'Ecole Normale et des enseignants universitaires. L'option est sanctionnee par un diplome universitaire, permettant une eventuelle poursuite de la specialisation dans l'Universite. Le choix des themes est libre et leur definition suffisamment large (Geographie de la population, les pays en voie de developpement), pour concilier les exigences d'une formation finalisee avec celles d'un acquis culturel valable dans la discipline.

- au niveau d'une formation continuee, comme enseignement dispense a la demande et en fonction des besoins exprimes par les maitres dans le cadre de leur enseignement. Les cessions de formation sont parfois assez longues (jusqu'a un mois) et d'autant plus intensives qu'elles s'adressent a un public motive.

La relative autonomie des Ecoles Normales d'Instituteurs et la diversite des situations (proximite plus ou moins grande d'une Universite), font que ce tableau doit etre nuance en fonction des conditions locales, d'autant qu'il s'agit d'un systeme souple et susceptible d'evolution. Il reste que ce systeme peut etre evalue comme un bon moyen de diffusion de la culture geographique et qu'il peut faciliter l'eveil a cette discipline aupres d'un large public.

4. Les Universites: autonomie et uniformite

Les Universites sont legalement definies comme des etablissements autonomes d'enseignement et de recherche. De fait, cette autonomie transparait a deux niveaux: celui de la formation professionnelle et celui des orientations de recherche. S'agissant de l'enseignement, il n'en va pas tout a fait de meme et les specificites regionales restent fort discretes face au monolithisme impose par les modalites de recrutement des maitres du Second Degre dans le cadre de concours nationaux. Force est de presenter ici ces concours qui conditionnent totalement les modalites de formation des maitres.

4.1. Deux concours, un programme:

Il existe deux concours, le Certificat d'Aptitude Professionnelle a l'Enseignement Secondaire et l'Agregation. Le premier (C.A.P.E.S.) est un peu moins specialise que le second, puisqu'il ne comprend que 2 epreuves ecrites, l'une d'Histoire, l'autre de Geographie, et une epreuve dominante a l'oral, en l'occurence la Geographie, avec une epreuve plus legere en Histoire.

Le deroulement du concours de l'Agregation passe par 4 epreuves ecrites, dites de Geographie physique, de Geographie humaine, de Geographie regionale et d'Histoire. L'oral comporte une epreuve dans le cadre du programme et une epreuve hors programme.

Les programmes sont renouveles pour moitie chaque annee. Pour 1983 et en nous limitnat a la Geographie, leurs libelles sont definis comme suit, l'essentiel etant de noter les identites:

- Agregation:	- Capes:
Les deserts et leur marge. Etude physique	-
Roches et paysages. Etude physique	-
Les villes	idem
Geographie des transports	idem
La France, aspects regionaux et generaux	idem
L'Europe du Nord et du Nord-Ouest, Islande, Iles Britanniques, Danemark, Norvege, Suede, Finlande.	-
L'Asie du Sud-Est (Birmanie, Thailande, Malyasia, Singapour, Indonesie, Philippines).	idem
L'evolution economique de l'Allemagne, de la France, de la Russie et des Etats-Unis du milieu de XIXe siecle a 1914	idem
L'Europe et la vie religieuse, de l'avenement de Boniface VIII au Concile de Bale de 1294 a 1449.	idem + 3 questions d'histoire

Au-dela de ces donnees formelles on retiendra que ces concours interessent des candidats ayant effectue au minimum 5 annees d'etudes universitaires et que le pourcentage de succes est faible. Pour l'annee 1980 prise a titre d'exemple, les resultats sont les suivants:

Capes Histoire-Geographie:

Candidats presentes:	1339
Candidats admis:	103 (soit 7,6%)

(1 admissible pour 6 candidats ayant reellement compose
1 recu pour 3 admissibles).

Agregation de Geographie

Candidats presentes:	369
Candidats admis:	33 (soit, 8,9%)1

(1 admissible pour 4 candidats ayant reellement compose,
1 recu pour 2 admissibles).

4.2. Identite des cursus:

C'est tres largement en fonction de la preparation directe aux concours, qui se fait au cours de la cinquieme annee, que s'organise le cursus universitaire sur quatre annees, comme suit:

- 1e et 2e annees: un cycle de formation de base (Diplome Universitaire d'Etudes Litteraires, mention Geographie)
- 3eme annee: une annee de Licence comportant un approfondissement de la discipline et une ;initiation optionnelle a la recherche
- 4eme annee: une annee de recherche donnant lieu a la redaction d'un travail personnel deja important. Ce travail est facultatif dans le cadre de la preparation au Capes. Il est obligatoire pour les candidats a l'Agregation.

4.3. Uniformite des contenus:

Une enquete portant sur 31 Universites donne les resultats suivants, les chiffres indiquant le nombre d'Universites interessees par le theme defini aux 2 niveaux correspondant au D.U.E.L. et a la Licence:

Theme	1er cycle/D.U.E.L. mention obligatoire	1er cycle/D.U.E.L. mention optionnelle	2e cycle/Licence mention obligatoire	2e cycle/Licence mention optionnele
. Geographie physique:				
Geographie physique sans autre precision	14	-	10	1
Morphologie	10	-	7	6
Climatologie	10	1	2	6
Hydrologie maritime et continentale	4	2	2	5
Biogeographie	5	1	2	3
Geologie	2	17	-	-
. Interface Homme/Nature				
. Geographie humaine et economique				
Geographie humaine sans autre precision	15	-	6	-
Geographie urbaine . . .	10	1	7	9
Geographie rurale . . .	10	1	6	6
Geographie sociale . . .	2	6	2	1
Geographie economique .	11	5	5	5
Geographie politique . .	-	1	-	2
Geographie de la population	10	5	1	4
. Geographie regionale				
Geographie de la region ou se trouve implantee l'Universite	6	4	2	2
Geographie regionale, France, etats ou groupes d'etats	31	-	15	1
Geographie zonale, Tiers-Monde, grands ensembles.	5	4	10	3
. Methodologies				
Analyse spatiale	3	1	4	-
Semiologie graphique . .	2	1	-	1
Cartographie	10	1	5	3
Teledetection	1	-	3	1
Statistiques	9	1	1	3
Geographie quantitative.	3	2	1	6
Informatique	1	2	1	5
Epistemologie	-	-	-	3
Didactique	-	-	1	4

La diversite et l'apparente dispersion de ce tableau ne doivent pas faire illusion. En fait, on peut distinguer deux niveaux de reference: celui des petites universites qui dispensent un enseignement ou dominent les valeurs obligatoires couvrant l'essentiel du champ geographique; celui des grandes universites, plus largement dotees en personnel et qui peuvent multiplier des options dont la combinaison aboutit en definitive au meme objectif. L'essentiel etant, dans l'un et l'autre cas de figure, de dispenser sur 3 ans la formation de base necessaire a la realisation d'une recherche personnelle puis a la preparation des concours.

Au-dela de cet objectif fondamental, beaucoup d'Universites etablissent des passerelles entre la preparation aux concours et la recherche. Il s'agit souvent d'options choisies en fonction de la specificite regionale (la montagne a Grenoble, les pays tropicaux a Bordeaux, l'oceanographie a Brest, etc...) ou des directions de recherche magistrales (Geographie de la sante a Montpellier, teledetection a Amiens, etc...). Au total, l'affirmation des personnalites regionales est reelle, mais discrete et toujours subordonnee aux imperatifs des concours.

On saisit mieux dans ces conditions, ce que peut etre la cohesion d'un corps d'enseignants formes au meme moule et selon les memes rythmes. Cette cohesion est encore renforcee par les commissions d'habilitation qui garantissent au niveau national, le niveau des enseignements et la valeur des diplomes, D.E.U.G., Licence et Maitrise (4e annee).

4.4. Convergence des methodes:

Une telle uniformite implique a l'evidence une certaine rigidite et un risque de sclerose. Il est pourtant facile d'observer que la diffusion des acquis scientifiques et des techniques nouvelles se font assez rapidement. A titre d'exemple, les donnees recentes sur la tectonique des plaques ont fait au cours de ces dernieres annees l'objet de nombreuses mises au point, certaines faites a l'intention des maitres du secondaire. Sur un autre plan il est interessant de noter que si l'enquete realisee en 1981 ne recense que les universites concernees par l'informatique, la meme enquete revelerait en 1983 que le recours a cette technique est a peu pres generalise au moins sous forme d'options. Tout cela n'empeche pas qu'il y ait, ici comme ailleurs, un clivage entre tenants des methodes qualitatives et quantitatives. Restev que ces dernieres sont utilisees sinon par tous les enseignants, du moins dans toutes les universites.

Le principe d'uniformite se retrouve bien entendu, dans l'organisation des etudes, chaque enseignement comportant des cours, des travaux pratiques, des exposes et des recherches personnelles suivies par des enseignants qualifies. Il se retrouve egalement au niveau de la sanction des etudes qui tient le plus souvent compte du travail personnel effectue en cours d'annee, tout en accordant une large place a un examen final.

Bien qu'il n'existe pas a notre connaissance d'evaluation globale sur la formation des maitres, il semble possible de degager quelques lignes directrices, notamment:

- l'accent porte sur le niveau des connaissances
- le souci de liaison entre l'enseignement universitaire et la recherche
- le maintien d'examens de caractere academique avec notamment
- la traditionnelle dissertation en temps limite
- la correction de cet academisme par les travaux pratiques et
- le commentaire de carte qui constitue en fait une forme specifiquement geographique de l'Academisme (celui-ci etant entendu comme un genre dont les regles sont bien definies et ne supportent aucun ecart.

5. Les Ecole Normales Superieures: des objectifs identiques a ceux des Universites.

La preparation aux concours de l'Enseignement n'est pas le fait des seules Universites. Y participent egalement les Ecoles Normales (a ne pas confondre avec les Ecoles Normales primaires presentees au point 3). Ces ecoles recrutent sur concours de niveau eleve et assurent d'excellentes preparations aux concours d'enseignement. La proportion de leur succes n'a rien qui puisse etonner. Au demeurant l'identite des objectifs explique une analogie evidente avec les filieres universitaires. Observons egalement que ces etablissements font une place considerable a la recherche et qu'inversement la prise en compte de problemes didactiques dans la discipline semble leur moindre souci.

6. Une lacune: la formation didactique

Apres analyse du cursus propose par les Ecoles Normales et par 31 Universites, il apparait que 4 de celles-ci seulement offrent un enseignement en didactique dans la discipline. Encore faut-il examiner le contenu de cette formation qui consiste en cours magistraux sur l'histoire de l'enseignement, l'evolution des programmes et le contenu des manuels. Dans le meilleur des cas, cette partie theorique est prolongee par un stage passif de quelques semaines dans un etablissement de l'enseignement secondaire. A une exception pres aucune de ces formation n'envisage l'essentiel: modalites de transmission, problemes de perception et de comprehension, docimologie.

Est-ce a diree que le probleme de la formation didactique des futurs maitres n'est pas pris en compte par l'Universite? Dans la plupart de celles-ci, il existe bien un enseignement de didactique, mais celui-ci est centre sur les problemes de psycho-pedagogie et ne s'interesse pas a la didactique de la discipline, son objectif etant la formation de psychopedagogues dont la principale caracteristique sera tres precisement de ne jamis enseigner dans le secondaire dans quelques discipline que ce soit.

Dans la pratique, les etudiants qui ont reussi a un concours, beneficient d'une annee de formation professionnelle durant laquelle ils auront une responsabilite d'enseigmant, feront des stages durant les classes d'enseignants confirmes et recevront, toutes disciplines confondues, un leger enseignement de psycho-pedagogie, generalement tres mal recu si ce n'est recuse.

On retiendra de cet expose, la separation radicale entre l'enseignement universitaire axe sur les problemes de contenus et de programmes et l'enseignement de la didactique - ou ce qui en tient lieu - qui reste detache de toute finalite disciplinaire. Reste a savoir comment ce hiatus pourrait etre comble. Il existe bien quelques Universitaires interesses par le probleme, il semble meme qu'il y ait quelques enseignants-geographes poursuivant des recherches dans ce domaine. On ne peut que souhaiter un veritable engagement de la part des Universites et une directive (rien ne peut se faire en France sans une directive ministerielle) fixant a l'Universite une mission precise dans ce sens

7. Un effort de reequilibrage: la formation continue

Dans l'exercise de leur fonction, les enseignants du Secondaire sont sensibles a plusieurs problemes, notamment:

- l'insuffisance de la formation initiale recue par nombre d'entreeux;

- la necessite pour tous, de reactualiser leurs connaissances en fonction des acquis recents de la discipline ou du renouvellement des programmes;

- l'interet de promouvoir des experiences didactiques qui peuvent etre partagees avec d'autres collegues.

Ces problemes ont ete pris en compte et largement debattus au cours de ces dernieres annees, dans le cadre de l'Association des Professeurs d'Histoire et Geographie qui regroupe dans toutes les regions et a l'echelle nationale, l'ensemble des professeurs, y compris ceux qui enseignent dans les Universites.

Cette association a obtenu, avec le concours de l'Administration (notamment le Centre de Documentation Pedagogique) et des Universites, la mise en oeuvre de plusieurs experiences de formation qui ne manquent pas d'interet dans la mesure ou elles sont parties des demandes exprimees par les enseignants et des possibilites regionales. C'est dire leur diversite et l'interet qu'elles presentent. S'il est difficile de prendre dans le detail toutes ces experiences, on peut retenir les principes suivants:

- les interventions sont organisees en fonction de la demande des beneficiaires. Il n'ya donc pas de programmes definis et preetablis;

- les formateurs peuvent etre des enseignants du Secondaire informes des problemes traites, des specialistes de ces memes problemes (par exemple des fonctionaires de la C.E.E., des syndicalistes agricoles et des juristes, a propos de l'agriculture dans la C.E.E., theme demande dans l'Academie de Lyon en 1983), des Universitaires.

- les interventions sont appuyees par des dossiers constitues a l'avance; elles sont suivies par des seances de mise au point et d'adaptation aux finalites et modalites de l'enseignement secondaire;

- les periodes de formation sont autant que possible d'une duree egale a une semaine; elles sont decentralisees, les equipes de formateurs se deplacant vers les formes;

- les problemes de didactique ne sont encore que tres faiblement pris en compte. Plus exactement ils sont subordonnes - donc occultes - par la pratique.

Force est, en conclusion, d'attirer l'attention sur le caractere encore experimental, d'un projet de formation continue qui repose pour l'essentiel sur la bonne volonte de l'administration qui n'est tenue a aucun engagement dans ce domaine; sur la bonne volonte des beneficiaires a qui on demande un serieux effort d'autonomie et une disponibilite totale pendant la phase de recyclage; sur le benevolat des formateurs et surtout des organisateurs de session. Il est facile de comprendre que la generalisation du systeme exigerait de gros investissements en horaires et en personnes, ce qui ne va pas de soi en periode d'austerite budgetaire.

8. La formation des maitres: un probleme a resoudre

La formation des maitres reste en theorie l'une des missions essentielles des Universites. Elles s'en acquittent au niveau de la transmission des connaissances mais ne semblent pas prendre conscience d'un triple probleme:

- probleme de recrutement, l'Education Nationale semblant preferer aux specialistes formes l'Universite, des enseignants polyvalents ou non qualifies;

- probleme d'adaptation aux finalites de l'enseignement par prise en charge d'une formation en didactique de la discipline;

- probleme de transmission des connaissances par prise en charge de la formation ccontinuee etendue a l'ensemble des maitres.

- Il reste beaucoup a faire pour arriver la.

Geography and Teacher Training in Canada

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The aim of this chapter is to examine in general the place of geography in Canadian education and in subsequent teacher training programmes across the country as a whole.

Canada is the second largest country in the world. Its 3.8 million square miles extend over an area twice as large as Europe, although Canada numbers a population of only 23 million. The most striking contrasts are between the virtually empty vastness of much of the country and the tightly packed metropolitan population centres such as Toronto, Montreal, Vancouver, Winnipeg and Edmonton.

Topographical and climatic differences reflect the vast extent of the country; and this is exemplified by the five time zones which exist between the west and east coasts. To fly across Canada from west to east is a distance greater than one would travel from London, England, to the Urals, or from London southeast to beyond Tehran.

Canada cannot be fully understood without realizing the importance attached to the ten provinces and two territories. (The two territories in question are the Yukon Territory and the Northwest Territories). Each province is highly conscious of the constitutional prerogatives; each contains its own parliament and a ministerial system which replicates that of the federal government in Ottawa. The provinces should really be considered as a confederation within Canada as a national state. The adherence of the provinces to the confederation was achieved on the constitutional basis set out by the British North America Act of 1867. This Act was officially repatriated to Canada in 1982, severing the last formal links between Canada and the United Kingdom. Canada, however, remains in the Commonwealth with the Queen as titular head. The central, federal government, which is based on the Westminster model, sits in the capital city, Ottawa. The federal House of Commons is elected by a cross-Canada franchise, and led by a prime minister who is the leader of the majority party.

Government law making is controlled at the head of state level by the governor general who is de facto and now de jure the legal representative of the Crown in Canada. Provinces receive assent for their provincial legislation through a lieutenant governor.

It is crucial to understand the provincial and federal 'split' in the Canadian political scene. It means that many Canadians will vote for one party in their provincial elections, and for an entirely different party in their federal elections!

One of the areas most affected by this system is education. The Act of 1867 specifically left the running of education to the provinces. Questions of religion and language were equally emotive at that time. Therefore education was firmly entrenched at the provincial level. (The sparsely populated two northern territories are administered directly from Ottawa). This means that for all practical purposes education is controlled by a Ministry of Education for and within the province. In their turn the provinces also centralize their administration to a remarkable degree. Though a province may be divided into school districts (one of which is British Columbia, an area as large as France), important factors such as the control of the curriculum and the certification of teachers remain a provincial governmental function.

The Canadian system of government is, therefore, a federal structure in general and a provincial one in particular. This is a major departure from the Westminster model of a parliament, which in England centralizes a great deal of control over a relatively small area of land. In Canada, a provincial minister of education may exercise control through the provincial budget though, unlike England, such control may be administered over vast areas of land, often with a scattered and sparse population.

As there is no centralized control over education in Canada, it follows that there are no 'civil servants' in education in a national sense. Ministries of Education are mostly staffed by those from within the provincial school system, perhaps with one or two academics included. However, there is not as in England, for example, the school of bureaucratic expertise which is available to the civil servants working in education administration at a national level. Whether the system is regarded as pragmatically positive or incestuous is a matter of personal opinion!

At this point it must be clearly stated that comments made on the training of teachers in geography are 'generally true' only. The sheer size of Canada and its provincial structure in education makes statements true only in 'a matter of degree.' Provincial practices will undoubtedly stray from a general norm if there is no centralized national control. Provincial control therefore, obviously has a great deal of influence on the training of teachers, and the curriculum content of any given subject. Geography is no exception to this. To complicate the matter still further, geography is generally taught as a component of social studies, though there may be one or two grades in secondary schools where the subject is taught specifically as "geography."

Mention should be made of "British influence." Such influence from the U.K. (and particularly from Scotland) has made an indelible mark on the nature of Canadian society and education. Newfoundland epitomizes this influence. Once a separate colony, and now a province, there geography is taken as a separate subject throughout the secondary school. A special situation also exists in Quebec with its French cultural background and the maintenance of French as a first language. However, the influence of the United States, Canada's largest neighbour to the south, has become increasingly important in the last fifty years. If there is a dichotomy in defining a Canadian identity, it is well illustrated in the teaching of the school subject, social studies.

Social studies appeared in Canadian schools at various times during this century. For example, the subject appeared in Manitoba in the 1930s, superceding history and geography. In British Columbia there was a two stage process. Social studies was introduced in the junior high school in 1927 and into all high schools in 1930. The United States influence is commented upon by Topping: "The combining of courses into Social Studies and General Science were but a few of the far reaching American innovations that took place" (Topping 1963, p. 90). These innovations caused geography to be removed entirely from the curriculum in Saskatchewan in 1944 and it was not restored until the 1960s. Alberta was probably the province which took the greatest interest in social studies, and by the 1960s had produced a curriculum in that subject which received international acclaim (Alberta, 1971). Quebec, on the other hand, offers two courses in geography in secondary education: General geography, physical and human in the first year of high school and "Geographie du Quebec et du Canada" in the third. This means effectively that students will have two courses in geography along with compulsory courses in history (second and fourth years) and economics in the fifth year. Thus geography is maintained as a specific subject though in a minor form.

Ontario is the province which has also retained geography as a specific subject and allocated to it a definite number of courses in the secondary school years. However, this development is relatively new, and until the early 1950s geography was taught in connection with history in Ontario (Olsen, 1979, p. 77). It is the number of specific courses in geography which are offered in any province at secondary school level which provide the main indicator as to the strength of the subject. Saskatchewan, for example, teaches social studies to grade 9, (with geography offered at grade 7), and then again as an optional subject in the final three grades of high school (10, 11, and 12). New Brunswick also teaches social studies to grade 9, and then geography in the last three grades. Such examples are generally typical of the teaching of social studies in most provinces, with geography as a component, offered in certain grades. These practices will, of course, affect the numbers of students who go on from school to universities and eventually become practitioners in the subject. This point will be discussed later.

We must, therefore, examine "social studies" and the place of geography in them. There is no clear definition for social studies. They have been defined as a meld of history, geography, and civics, or as a subject comprising elements of history, geography, economics, sociology, political science, and anthropology (Hanna, 1965, p. 43). This means that social studies is a subject made up of component parts to assist inquiries about aociety as a whole.

The aims of social studies are well illustrated by Scarfe when he comments: "The common claims of the social studies are to produce good citizenship, social skills of all sorts, and a store of knowledge that will enable its possessor to assess the social problems of his adult days, live in democratic freedom and peace with his neighbours, as well as realize his obligations to the nations of the world" (Scarfe, 1965, p. 59).

The growth of social studies in the 20s arose from a desire to bring children directly into contact with their immediate community. Though the subject was in fact "a reluctant revolt against the old traditional disciplines of the school" (ibid, p. 62) nevertheless, there was criticism that the new social studies emphasized social training and citizenship at the expense of intellectual development.

The example given above tends merely to illustrate the influence of the United States on social studies, a subject which looks on geography as a small component part. This must also be seen in the light of the fact that geography as such is rarely taught in schools in the United States, and is not as strong a subject in the United States' universities as it is in Canada. However much we analyze what social studies is (or 'are') a semantic problem, there is little doubt that in Canada the subject has one foot uneasily in two camps. One point of view reflects the academic disciplines of history and geography (the European tradition). The other reflects an entirely different approach based on practices from south of the border.

In Canadian schools the 'U.S. factor' may well become more dominant in the future. There is a natural tendency in Canada to adopt curriculum changes suggested by the United States. Many textbooks used in Canada are produced in the United States or are modified versions of books in use in the United States.

The latter country has made a great contribution to education by its constant scrutiny of the curriculum and constant curriculum change (cf. The High School Geography Project, 1970). If we paraphrase some of the chapter headings of two well known textbooks in social studies we find approaches very different from standard geography texts. Kenworthy (1973) has chapters on "Studying individuals and families," "Studying communities," and "Studying personal problems and problems of the local community." Michaelis (1972) devotes chapters to "Developing thinking and inquiry processes," "Developing values, attitudes and valuing processes," "Investigating current affairs and special events," and "Investigating environmental problems." Such headings indicate a very different conception of a study of place, spatial distribution, and related data than would be applied by more traditional geographers, with their particular views on a 'problems' approach or Regional Geography.

Another issue, more pertinent to educators in geography, is the perennial argument over the 'content' of the geography to be taught, and the method of teaching it. Through the control of school work by the curriculum, the content appears to be the stronger factor. Within the curriculum 'methods' (or didactics) may be prescribed as 'strategies, to enable content to be taught within the curriculum. An attempt to overcome this problem in social studies can be seen in 'concept teaching' which was very much in vogue in the late 60s and 70s (Taba, 1967, p. 12). The 'problems' approach is visible in both social studies and in geography teaching today. Yet a study of a problem will subsume some basic knowledge of historic and/or geographical principles. Thus if there is a tendency to study political problems, such as the Middle East, "a thorough investigation of the historical antecedents to the present crisis or the geographical conditions of life there" is undoubtedly needed (Scarfe, 1979, p. 53). The need for water in this area, and its use for irrigation both have been political questions which have triggered many crises in this area for centuries. Geography, therefore, is only a small component of social studies in Canadian schools in general. Though geographical content may be difined in the curriculum guide, there is often little indication of the depth to which it will be taught. It can be given a cursory review, as in the light of Scarfe's statement above, and it may be taught by teachers with very little geography in their own background, a point which will be enlarged upon later.

Unlike England, to take one example, there is little continuum between learning geography in school, studying the subject at university level, and then taking geography back to the school by a teacher who has graduated with honours in the subject. In England the average graduates probably have gone through the Ordinary and Advanced level examainations, and will have been taught by those, who, though they may have their own specialities, repeat the approach instilled by their own schools and university work. There is thus a continuum in geography teaching where the cycle is: school work--public examination--undergraduate work--degree--teaching in schools for the public examination. This cycle affects even the vocabulary used in geography (Milburn, 1972, p. 107) and guarantees some general approach to geography in a nation sense. However, there is no public exam in Canada which points a student in the direction of taking what he has learned in geography straight on to the university. The gap between the departments of geography and the schools in Canada is a wide one as the comparison with England has attempted to illustrate. This is not the fault of universities who mosts often show a natural interest in what is taught within geography courses.

Students may come to universities to read geography with very little knowledge of the subject and will effectively start their training in geography in the first year of the university course. To illustrate this point by a simple experiment conducted for the purpose of illustration in this chapter, the author arranged for a simple questionnaire to be administered to 200 undergraduate students in the Faculty of Education in the University of British Columbia: the questions were "Casting your mind back to your days in high school, did you study topographical maps often, sometimes, rarely, or never?" The answers received were as follows: Often 7.5%, sometimes 33.3%, rarely 43.7%, and never 15.5%. A more precise study by Searle, Rustad, and Wright (1982, p. 57) indicates that out of a sample of 150 pupils, 102 claimed to use a geography text in every lesson, 51 said they used maps in some form during every lesson, while only 15 claimed to have been on local surveys or field work outings. Discussion, that overused tool of social scientists in schools, was said by half the sample to occur in every classroom period. It was more difficult to define geographical content precisely; what was considered "geography" was confined to work on maps or work on Canada in some way, or an 'overseas' project.

Let us examine geographical content in just one provincial secondary school curriculum, the province of British Columbia. At grade eight (age thirteen years) some historical geography might support the prescribed study of the Graeco-Roman period, or, the Renaissance, both selected areas of study. In grade nine the curriculum states "People and Resources" with the emphasis on a survey of the Canadian economy, and a survey of the Industrial Revolution 1750-65. Some formal regional geography is sometimes attempted within the rubric of "two selected studies, chosen one each from an industrial nation, Japan, or Western Europe, and a developing nation." Grade eleven provides for studies of "People and World Issues," such as nationhood, conflict between nations, and cooperation between nations. In grade twelve it is possible to pursue a formal course in geography as a subject in its own right. Therefore, with very little difficulty, a great deal of geography could be assimilated during years of study in the secondary school, particularly with regard to the Canadian content, which is a dominant and important feature in the curriculum. Some Canadian content is included in each year, usually with an economic, political, or social emphasis, or within a "problems" approach, or in a comparative manner with the rest of the world.

In Ontario, however, the scene is different. Indeed an article on the teaching of geography in that province states that "Geography is a popular subject in Ontario. It is, in fact, sufficiently well established in the Ontario secondary school system that many students will take four or five geography courses in four years of high school and one or two more in their fifth year" (Olsen, 1979, p.75). However, the more general approach through social studies, with its emphasis on "peoples," may allow man-land relations to be stressed, yet without a physical background or with little use of maps. Bunge stated that one could not separate physical and human geography for they are "as one, inseparable, cognate, and the same" (Bunge, 1973, p. 331). Nevertheless, the amount of physical and human geography taught in Canadian classrooms, in generally, would depend on the background of the teacher. Let us, therefore, examine the practitioners and their training.

It may seem that this chapter has taken some time to reach its main purpose. However, the size of Canada, its provincial structure, and in general, the placement of geography as one component only of social studies, all dramatically influence that nature of geography teaching and the training of practitioners.

Teacher training in Canada is generally carried out by faculties of education in the various universities. Again there are differences between provinces. For example, in Nova Scotia there is a Teacher's College at Truro, as well as a Faculty of Education in each of the universities. In Quebec the 'European model' is pronounced. Students may spend two years in a geography department followed by one year in an Education Faculty (after which they will receive a Baccalaureat), or three years in a geography department (obtaining a B.A.) followed by a one year course in education. In general, however, training courses follow the concurrent or consecutive mode, that is, a Bachelor of Education degree taken over a specified number of years or a one year course in education taken after obtaining a degree. Teaching certificates are awarded by the various provincial governments, on the recommendation of a university. Traditionally, students from history and geography departments have made up the majority of social studies teachers. Even at this level it will be clear that teachers of social studies who are trained as geographers will have to teach the history component, and vice versa. This has led, in some faculties of education, to favour 'make up courses,' i.e., history teaching for geographers, and vice versa. However, some universities are liberal in their regulations and will require as little as a single course in history or geography as a basic requirement for specializing in the teaching of social studies. Prospective teachers may have a degree from departments other than history and geography: for example, from within the social sciences in general, anthropology, sociology, or economics. This puts great stress on the importance of 'methods' courses (didactics) within faculties of education. But those courses may be social studies 'methods,' in which geography, as in the schools, remains one component.

Traditionally the historians have slightly outnumbered the geographers in faculties of education, but at present there are signs that the number of geography students is falling off everywhere as there are now a number of professions which in recent years have increasingly used non-geography graduates. Even in Ontario, where geography remains firmly in the curriculum as a subject, not all those who teach geography will themselves be trained geographers; as the following statement indicates, "Most schools will have a separate geography department headed by a geography specialist, that is someone who would have the equivalent of a four-year honours B.A. degree in geography and who has obtained a specialist teaching certificate" (Olsen 1979, p. 77). In the training of elementary school teachers the 'generalist' approach is common. Students in this area most often come to education with a background or degree in English or psychology, with a minority who have studied or are studying a wide range of subjects. In the Faculty of Education in the University of British Columbia in 1983 only 15 out of a total 97 students registered in secondary social studies had specialized in geography or had a geography degree. This faculty is the largest education faculty in Canada, and such figures may be taken as a reasonable indication of the general background of prospective teachers of geographical content.

The official curriculum within each province also has an effect on teacher training. Students in faculties of education will expect to receive help in interpreting the curriculum, which they will be expected to follow in schools. The nature and content in the provincial curriculum may bear little relationship to the overall offering of a university department of geography.

While geography is firmly established in the universities, the gap between university departments of geography and faculties of education is wider than in, say, England. As has been mentioned, the lack of a national school leaving exam is but one example which separates the university from school. It has been mentioned that secondary school syllabi are influenced by university requirements, thus compounding the school to university to teacher training to back to school cycle. With the exception of studies or courses specifically in Canada, specialist courses within university departments of geography may be far removed from the teaching of geography in schools.

The wider gap in Canada also affects research. Professional geographers in both departments of geography and faculties of education will probably pursue research in the subject which may or may not have some bearing on the educational process in schools. Few will work in the field of education in general with a view to changing the teaching of geography in particular. As Wolforth comments: "among the various branches of Geography, geographical education has the most weakly defined research dimension" (Wolforth, 1980, p. 165).

Kohn reinforces this point with reference to the United States and adds that to be actively engaged in research in geographical education may even be detrimental to a career. He states that academics may refrain from participating in research, or "even speaking with professional educationists -- lest it hurt their professional advancement in their respective institutions" (Kohn, 1982, p. 45). In the 70s U.S. geography lost ground to the new subject of "Earth Sciences," and this had an inevitable effect on Canada. As Hanna observed at an earlier date: "when leading institutions like Harvard and Stanford Universities abandoned their Geography Departments, the tumbling dominoes effect was pronounced" (Hannah, 1966, p. vii).

The relationship in Canada between geography per se and geography in teacher training may at first seem to be casual. If taught by a well trained professional geographer it is to be assumed that a range of teaching strategies and skills will be covered during a teacher preparation course. If on the other hand the geographical component of a training course in social studies is taught by an economist, then quite properly, there will be a different emphasis within the course, and geography teaching may be covered in a correct, but cursory manner. It cannot but be stated that too many, though not all geographers, believe the subject has lost ground in its general inclusion with the social studies. However, there are some encouraging signs. There are a number of sound regional publications for geography teaching. Horizon for British Columbia teachers, Ontario's Monograph, and Geoscope for geographical teachers in Quebec, along with the French language Geographie Didactique.

The National Council for Geographical Education is a Canadian-United States body, which seeks actively to promote geography in North America as a whole; its journal is well known and well used. It is heartening to note the amount of articles by geographers from departments of geography in universities in this publication. It is good to see articles emphasizing methods of teaching. Methods of teaching are much more important in the training of teachers in England than in U.S.A. In the North American scene, content or curriculum are more often the only things one studies in teacher training.

The Canada Studies Foundation has made a significant contribution to both schools and teacher training, not only by producing material on Canada, but also by stressing new strategies for teaching. An example of this can be found in the book ''Project 5 to 9" in which children actively gather, process, and record data; rather than through didactic instruction or simply reading a textbook (Harper, 1975). The publications and materials produced by the Foundation in the 1970s resulted from "a unique partnership of academic researchers, geography educators, and classroom teachers" (Tomkins, 1980, p. 17). Growing interest in such studies in the United States is due in no small measure to the work of the Canada Studies Foundation.

In conclusion, it may be useful to comment on the New UNESCO Source Book for Geography Teaching (Graves, Ed., 1982). It represents a substantial step in analyzing the methods by which students of all ages learn geography. It looks at learning theory, mental development and problem solving within a framework of geography. Graves comments in the introduction: "Not only are teachers now more aware of Piaget's and Bruner's models of mental development of children and adolescents, but they have been introduced to the problems of curriculum development and curriculum planning" (Graves, 1982, p. xviii). Such an approach may give an impetus to geographical education and transform it "by research and epistemological debate" (Wolforth, 1980, p. 165). Though the relative value of geography in Canada is generally seen only in its relationship to other disciplines, its absolute value could perhaps be stressed more strongly both in schools, universities, and in particular in Faculties of Education. Absolute values can only spring from a detached study of the nature of any environment. Basic geographical 'facts' must be assimilated and analyzed before a reasoned evaluation can take place. The skills of inquiry and understanding are prerequisites to teaching geography in its most literal sense.

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EDUCATING GEOGRAPHY TEACHERS:
THE EXPERIENCE OF ENGLAND AND WALES

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Introduction

In this article I will outline briefly the educational context in which teacher education in England and Wales takes place; secondly indicate trends which have occurred in the institutions involved in teacher education; thirdly discuss different views of what the teacher education process should be; and, fourthly assess what tends to happen in the present context given the various social and economic pressures at work. The statements made are not based on a wide ranging survey of teacher education in England and Wales, but rather on published sources and on the direct experience of the author who has been involved in the teacher education process over the past twenty years. It is apposite to state that in England and Wales, there have been more upheavals in teacher education in the past 10 years than in the previous 50 years, so that if the situation described seems a little confusing, this is a true reflection of the state of the art at present.

The Education Context

Historically the state educational system in England and Wales evolved from two traditions: 1) the elementary school tradition catering for children not expected to continue their studies beyond obtaining a grasp of the basic skills of literacy and numeracy, and 2) the secondary school tradition catering for those expected to acquire a knowledge of the sciences, the humanities, the arts, mathematics, languages (ancient and modern) and so on. Teacher training, as it was then called, took place in two sorts of institutions, the training colleges (or normal schools) which produced teachers for the elementary schools, and the Universities which, inter alia, produced teachers for the secondary schools. In the training colleges, emphasis was laid on the pedagogical training of teachers, in the universities the emphasis was on the academic knowledge to be learned by the future teachers. Only relatively recently have prospective secondary school teachers been asked to obtain a teaching or pedagogical qualification over and above a university degree in the subject they are to teach. The distinction between the elementary and the secondary system of education was dropped in the 1944 Education Act, but the different routes to a teaching qualification remained. In effect, the training colleges concentrated on training teachers for primary schools (5-11 years) and for the secondary modern schools (11-15 years), the latter being schools for the less academically gifted children. The Universities concentrated on the training of teachers for the academic grammar schools (11-18 years). The teacher training aspect of university courses was contained in a one year Post-graduated Certificate of Education (P.G.C.E.) course undertaken in a University Department of Education.

After 1965, there occurred a growth in secondary comprehensive schools, schools catering for all children between the ages of 11 and 18, irrespective of academic ability. Today some eighty percent of all children of secondary age groups are catered for in secondary comprehensive schools. As a result, the distinction between training colleges and universities as teacher education institutions, became to some extent irrelevant. This was compounded by the fact that 1) the training colleges, renamed Colleges of Education, began to teach for degree courses under university validation, and also offered places to university graduates to undertake courses of post-graduate training for teaching, and 2) the universities began to offer P.G.C.E. courses for graduates who wished to teach in primary schools. Most primary teachers, however, were still educated in the Colleges of Education.

Changes in the Institutions Undertaking Teacher Education

The rapid expansion of the teacher education system in the nineteen sixties was to come to a sudden and catastrophic stop in the early nineteen seventies. The fall in the birthrate resulted in a marked fall in the demand for primary teachers at first and for secondary teachers later. The Colleges of Education bore the brunt of that contraction. The policy adopted by the Department of Education and Science was to request colleges to merge with adjoining polytechnics or other colleges and to change their character from mono-technic teacher education establishments to polytechnic establishments catering for a range of courses. The University Departments of Education are only now in the early nineteen eighties beginning to feel the effect of the falling demand for secondary teachers and they too are contracting. The institutional pattern in which teacher education now takes place in England and Wales is the following:

(1) University Departments (or Schools, or Institutes) of Education, where initial courses of training for graduates prepare them for primary or secondary teaching. Not all secondary courses cater for geographers, for example, there is not a geography course at the University of Warwick. Not all universities have Departments of Education. There is no such department for example, at the University of Essex. University Departments of Education also undertake higher degree work and research in education.

(2) Polytechnic Departments (or Schools) of Education, where mainly initial courses of teacher education take place. Here courses may be concurrent as well as consequent, that is students may be studying for a three year degree which involves some element of teacher education or undertake a three year degree course followed by a one year Post-Graduate Certificate of Education course.

(3) Colleges of Higher Education, which are former Colleges of Education, have become diversified higher education institutions, though they usually do not have the range of studies in technology of the polytechnics. Here the courses offered are similar to those in polytechnics.

(4) Colleges of Higher Education which have remained monotechnic and which continue to concentrate on teacher education. Again the courses offered are of the same kind as those offered in polytechnic Departments of Education.

Views on the Teacher-Education Process

Since this article is essentially concerned with the education and training of teachers of geography and since most teachers of geography teach in secondary schools, I shall say little about the education of primary school teachers. Most secondary school teachers in England and Wales are presently trained through a one year Post-Graduate Certificate in Education course (P.G.C.E.). This sets a limit on the time available for teacher education, but what actually goes on within the courses is subject to considerable debate. The kind of issues which arise are those concerned with the emphasis to be given to various aspects of the course. Broadly, most courses include three main elements: First, a consideration of main educational issues, such as the nature of the educational process and the aims of education, education and society and so on; secondly, an initiation into the the teaching strategies and techniques thought to be appropriate for geography; and thirdly, a period of teaching practice when the students attempt to teach classes of secondary school pupils some aspects of geography. It will be noticed that since the students are graduates in geography, they are assumed to be competent geographers and no geography content as such is taught within the P.G.C.E. courses. This would not be the case of a student studying for the B.Ed. (Bachelor of Education) degree who would in the three of four years of his studies include a substantial element of geography if he was to specialize in geography teaching.

Attitudes to teacher training have varied considerably since the days when teacher training was essentially an apprenticeship. A brief survey of these changes are given in Wragg's (1974) book Teaching Teaching. He shows that the structure of teacher education courses remained for many years similar to the recommendations made by the 1907 "Committee of Seventeen" for secondary school teachers in the United States. These were:

"II. That definitive study be given to each of the following subjects, either in separate course or in such combination as convenience or necessity demands:

(a) History of Education
    1. History of general education.
    2. History of secondary education.
(b) Education Psychology with emphasis on adolescence.
(c) The principles of education, including the study of educational aims, values, and processes. Courses in general method are included under this heading.
(d) Special methods in the secondary school subjects that the students expect to teach.
(e) Organization and management of schools and school systems.
(f) School hygiene.

III. That opportunity for observation and practice teaching with secondary pupils be given" (NEA 1907).

What were the underlying assumptions behind such a programme? They were straight forward. A student teacher ought to know: 1) how education has changed over time; 2) how the workings of the mind (particularly in adolescence) affect the process of teaching; 3) what values inform the ends toward which the education process is working; 4) what particular teaching techniques are appropriate to the subject being taught; 5) how schools and educational systems work as organizations; and 6) how children may be kept healthy when at school. An underlying general assumption was that such propositional knowledge would not only inform action in schools but stimulate action. In practice, the average student teacher would concentrate on the teaching techniques advocated by his methods tutor and attempt to put these into practice in schools. The student teacher would study other aspects as, and when, required for assessment purposes, though clearly some students were intellectually more motivated than others to probe certain areas of education in depth. This somewhat cavalier attitude on the part of many students to the theoretical aspects of education can be explained in terms of the students' perceptions that such knowledge did not *ipso facto* transform the student into a competent practising teacher. On the other hand, the geography special methods tutor was a person who helped the student to structure his or her lesson plans or teaching units; the tutor could suggest activities which pupils would enjoy doing; the tutor could point to slides, film strips, and films which would illustrate lessons; the tutor might suggest ways of dealing with difficult children and even sit next to them during visits to the school to help calm them down and so on. In other words, interacting with the methods tutor seemed to have some immediate pay off in terms of practice, whereas the knowledge gleaned from the other aspects of the course was, at best, interesting background information which might or might not be useful, and at worst, it was an irrelevancy.

One of the problems facing teacher educators in a university context is that of the status of educational studies. Universities in the United Kingdom have been, until recently, largely self-governed autonomous institutions where new areas of knowledge were accepted reluctantly and then only if they could demonstrate their intellectual worth. Thus, those working in education departments have been under pressure to show that the study of education could lead to scholarly work of one kind or another. As a consequence, a good deal of research and writing went on in those areas which seemed to lend themselves to scholarly treatment, namely: the philosophy of education, the psychology of education, the history of education, and more recently, the sociology of education. Those occupying chairs of education tended to be philosophers, psychologists, historians, and again, more recently sociologists. This situation tended to reinforce the appointment to university departments of staff who had proved their worth academically, but whose knowledge of pedagogy or of teacher education was less sure. Those who become tutors of subject teaching methods, for example, lecturers in geography teaching methods, tended to be looked upon as good practical teachers, but intellectually lightweight compared with the philosophers, psychologists, historians, and sociologists. From the universities' point of view, these perceptions were probably accurate, but the reasons were not that the nature of teaching methods was *ipso facto* a non-intellectual pursuit, but rather that such studies were in their infancy and had yet to develop an appropriate body of theory.

Strangely, the nature of teacher education courses did not become a subject for research in the United Kingdom until the early nineteen seventies. Since then, there has been a ferment of ideas on teacher education stimulated in part by the changing institutional context of teacher education. Some of these ideas are discussed in a general way in Wragg's (1974) book *Teaching*

Teaching, and in the context of geography teacher training by Graves (1978) article on 'Changes in Attitude Towards the Training of Teachers of Geography.' More recently, the Universities Council for the Education of Teachers (UCET) set up a working party to examine ways in which P.G.C.E. courses might be structured (Hirst 1980). Since the discussions of this working party tend to reflect views on the teacher education of teachers of specialist subjects for secondary schools, it is worth outlining their conclusions.

First, it is argued that such a course must focus on the professional preparation of teachers for their first teaching appointment. This preparation, however, should not be of a narrow mechanical kind, but should involve knowledge of the context in which the teachers will be operating and the development of the ability to judge the appropriateness of certain teaching procedures and actions, and the ability to assess education outcomes. Further, training should be in the best forms of practice rather than on what may currently be the norm. The aims of the course are postulated as:

(a) an understanding of the subject and its place in the secondary school curriculum;
(b) an understanding of the learning of the subject by secondary school pupils;
(c) an understanding of the skills and personal qualities necessary for teaching the subject to secondary school pupils; and
(d) an understanding of the skills and personal qualities necessary to the exercise of the forms of classroom discipline and control appropriate for the teaching of the subject in secondary schools.

The emphasis is very heavily on the subject to be taught, the skills necessary to teach it, and on classroom management.

How these aims are to be achieved is outlined in the report of the working party. Pride of place is given to the notion that, though the teaching methods appropriate to a subject are now seen to be just as theory and value laden, as for example, the philosophy of education, initiating students into such theories and values may best be done through practical activities and their analysis. Thus it is suggested that such activities should be school-based and undertaken as collaborative ventures by university tutors and associated school teachers. Further theoretical analysis may also be undertaken at the University by using micro-teaching techniques and more traditional university seminars and tutorials.

What, in fact, does this mean in day to day practice? Some indication is given in a brief article published in the Australian journal Forum of Education (Slater, Pask 1982) in which a university tutor (Frances Slater) and a school teacher (Raymond Pask) describe the nature of their collaboration. After an initial week, during which students follow a lecture and seminar programme introducing them to the aims and values of geographical education, they begin to analyze video-tapes of geography lessons taught by different teachers with a view to teasing out the aims and objectives of such lessons, the teaching strategies used, the teaching style of the individual teachers, and so on. The students (a group of 8 to 10) then go to a comprehensive school for one day each week where they undertake some teaching of a small group of pupils (3 to 5 pupils per student). At first the students are given precise instructions as to what to teach, how to teach it, and the resources (maps, pictures, statistics, etc.) with which to teach. Later the constraints are gradually relaxed and the students are allowed to develop their own teaching strategies and styles and to search for and devise their own resources. Lessons will tend to be split into three parts with an introductory section followed by several activities enabling the pupils to apply knowledge and develop ideas and a concluding section in which the generalizations developed are made explicit. Each period of teaching (about one hour long) is followed by a tutorial session in which both the university tutor and school teacher who have been present at the lesson discuss with the students the educational processes which have taken place. Quite apart from an evaluation of the lesson, and a discussion of the next lesson to be prepared, there is a consideration of such teaching skills as the raising of questions, the use of various teaching aids including the chalkboard, the motivation of pupils, the nature of the objectives used, the appropriateness of the geographical content included, and the hidden curriculum covertly put across by the student teacher. In general, the skills more immediately necessary to survival in the classroom are considered first and matters requiring more elaboration and experience on the part of the student, such the problem of language and vocabulary, the stages of intellectual development of pupils and their relationship to precise geographical concepts and principles, are left till later. Ideas on curriculum theory and planning, and Brunerian and Piagetian ideas on mental development, are introduced in so far as they relate to a precise teaching problem and not as isolated notions in curriculum or education psychology. Similarly in evaluating a lesson, a question might arise as to whether the geography taught was worth learning, which is a philosophical question in a practical context. Further exploration in depth of some of these questions takes place in the training institution with same or other university tutors. In this way, the students come to feel that such knowledge is not esoteric or irrelevant.

A modified version of the UCET scheme for teacher education is that proposed by Stones (1981). He feels that there is little that can be learned from subject-specific pedagogy that cannot be learned from a general course in pedagogy. Too many of the texts on the teaching of particular subjects such as geography, tend, he argues, to accept unquestioningly the transmission reception mode of teaching. Clearly there is room for improvement in many of the textbooks on geographical education and patently some pedagogical ideas are valid across the subjects of the secondary school curriculum. But a student teacher will more readily approach a pedagogical problem from a concrete problem posed in the teaching of his own subject, than in an abstract way through a general pedagogical principle. However, Stones does make a valid point when he writes, "What I am talking about is an approach to teaching as a form of investigation or experimentation. It is a problem solving activity" (p.225). This accords well with Stenhouse's (1975) view of the teacher as a researcher. It is when the teacher is actively researching to plan his classroom activities that he produces his best teaching, that is when he is aware that he also is learning. But this means that he must be researching the ideas or skills he is to teach as well as the teaching strategies he is to use. These form an integral part of the total curriculum process.

Just as the initiation into classroom teaching is a cooperative venture between university tutor and school teacher, so the supervision of teaching practice is a joint enterprise. School practice varies in its structure, many

Departments of Education arrange for a term (usually the Spring term) to be entirely devoted to teaching practice. Others, arrange for two shorter periods of teaching practice of about six weeks each, so that students spend some time in the University on "theoretical" studies and some time in school on teaching practice. The precise nature of the counselling received by students varies according to such factors as the kind of geography being taught, the characteristics of the pupils, the student teacher's own development and degree of confidence. It is a delicate matter where rigid rules of procedure cannot easily be laid down. A tutor will, in general, attempt to develop a student teacher's sensitivity to the pupils' reactions to his or her teaching and at the same time bolster his or her confidence. A tutor will get the student to analyze the geographic skills and ideas that he or she has attempted to teach and to assess their validity and worthwhileness. In a difficult school environment, the class management aspect may absorb most of the time available for counselling because class control is the main problem to be solved.

The Present Situation in England and Wales

In 1982 the Department of Education and Science (DES) published a report written by Her Majesty's Inspectors of Schools (DES, 1982) on the performance of a sample of teachers in their first year of teaching. The inspectors came to the conclusion that some 25% of the sample were deficient in some of the teaching skills which they should have acquired during training. The performance of teachers was assessed in a subjective way, but based on the following criteria:

1. relationship with pupils and classroom management;
2. planning and preparation of work;
3. match of work to pupils;
4. language in the classroom; and
5. lesson profile.

Whilst these statements must be taken seriously they need to be seen in perspective. They apply to all teachers: primary school and secondary school teachers, B.Ed. and P.G.C.E. trained teachers. They point to the fact that 75% of teachers were apparently not deficient in the ways indicated by the inspectors. They also hint that where the teachers were dissatisfied with their training, it was on such matters as preparation for pastoral duties, for educating multicultural groups, for educating socially deprived groups, and for educating mixed aged groups; all of which are areas on which there is a limited range of knowledge and skills available for immediate application. The new teachers did feel, however, that in their training they spent too much time on education studies and too little time on teaching practice, which seems to reinforce the views of the UCET working party outlined earlier. Though the inspectors argued for increasing the level of teaching skills of those leaving training institutions, they also argued strongly that it was unsatisfactory to expect new teachers to teach subjects in which they are not personally competent (p. 84).

The training of geography teachers is a process subject to many influences--academic, professional, and perhaps most important of all, economic and demographic. Academic influences are felt in the training institutions where the emphasis is on the validity and intellectual status of the subject matter taught. Professional influences emanate from the schools and education authorities who stress the need for training institutions to produce competent teachers, though a definition of competence is not always given. But the very process of educating teachers has been subject to contraction at a time when the quality of education service could have been improved because of the lower demographic pressure on schools. The contraction has occurred because the education system is vulnerable in a climate of economic decline. Consequently much that has happened to the structure of teacher education is only remotely connected with academic and professional influences.

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TEACHER EDUCATION IN GEOGRAPHY:
THE NEW ZEALAND MODEL IN THE EIGHTIES

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Probably because of its antipodean isolation, in the middle latitudes of the Southern Hemisphere and in the centre of the Earth's "water hemisphere," the inhabitants of New Zealand have developed an "informal," yet considerable, interest in general world geography. This is reflected in the considerable importance of geographical studies in the senior secondary school curriculum and, among adult age groups, in the large proportion of New Zealanders who have travelled overseas in the last few years. In 1981 they numbered 457,300, or over 14% of the total population of 3,176,000. This is an impressive number when we bear in mind that more than 1600 kilometres of ocean separates us from both Australia and Fiji, our nearest neighbours of any size.

Perhaps strangely in the context just outlined, hardly any young New Zealanders become aware of geography as a separate subject until they reach their eleventh year in the school system at the age of fifteen to sixteen years. This is usually their third year in a secondary school. Prior to reaching this level, essentially geographical topics and content are taught as part of social studies courses which also include significant sociological, historical, economic and political strands, besides a smattering of other subjects. During the early 1960s, in most secondary students' third year, geography ranked second only to English amongst the numbers of candidates for the School Certificate Examination. Since 1977 it has slipped to fourth place, behind English, mathematics and science, although still well ahead of all the other optional subjects (Johnston, 1982). Meanwhile in their fourth year, in Form 6, it has also ranked fourth for the past decade, behind English, mathematics and biology. In Form 7, the graduation year, geography's ranking has dropped from sixth to eighth place during the last six years. Since they were established about a century ago, pre-service primary teacher education 2-year courses in New Zealand have been available only in special teachers colleges. In the late 1960s these "Division A" courses were extended into a third year. Subsequently, over the past decade an increasing number of primary teacher trainees have taken a B. Ed. degree course concurrently at a college and adjacent university. On the other hand, most secondary teacher trainees complete a 3 to 5 year university degree or diploma course and then follow a one-year "Division C" college course for the academic components of a Diploma in Teaching, which is awarded after two years satisfactory service in a State secondary school. The rest of the secondary teacher trainees follow concurrent, "Division B" courses of study, at both teachers college and university, of from 1 1/2 years to 3 years duration, depending on the number of university course credits attained prior to entry.

Because of the absence of geography as an independent study in primary and junior secondary school programmes, full curriculum studies courses in geography are available only at the two biggest teachers colleges in the country, Secondary Teachers College in Auckland, the country's largest metropolitan area, and at Christchurch Teachers College, in the chief urban area in the South Island.

The nature of courses taught in the geography section of the Secondary Social Sciences Department at Christchurch Teachers College needs to be seen within the context of substantial changes made to the whole of the College's secondary programmes structure in 1980, following two years of intensive course evaluation and re-writing. This was done with the help of several general and subject committees with representation from teachers organizations, the Secondary Inspectorate and contemporary trainees (Figure 1).

Most importance was given, in the new structure, to a new compulsory subject called "Professional Studies" which includes such basic topics as lesson planning, classroom management and control skills, classroom observation skills, mixed ability classes, questioning techniques, teaching methods, and testing and measurement methods. It also incorporates a comprehensive audio-visual media practical work programme and, since 1983, obligatory multi-cultural education requirements. Teaching practice totaling thirteen weeks is closely linked to the professional studies course through the tutor group organization. Tutors continue to have the responsibility for placing their tutees in schools for teaching practice considered appropriate to their needs. Later, they observe their teaching, write lesson reports, and then discuss their progress with the trainees and their school tutors.

With the general needs for the trainee during the first few years of teaching catered for in Professional Studies, the various curriculum study courses are tailored to provide a knowledge and understanding of the particular syllabi taught and the best techniques for teaching important ideas and skills associated with specific subjects. Curriculum studies vary from 24 to 96 hours, depending on the range of school class levels taught from one to five. Geography, taught at three levels, has been assigned 48 hours, available in both a one semester class for five hours weekly or spread over two semesters for two, and occasionally three, hours per week.

The position of the geography curriculum study course in the general pre-service teacher training system and its links with other courses are shown in Figure 2. The minimum pre-requisite for acceptance for the course is a pass in university geography courses, including a physical geography paper, at Stage 2 ("200" level). If a physical geography course at the 200 level has not been taken, the 24-hour physical geography subject study course is made obligatory.

Recommendations, sometimes even obligations, to participate in the other subject study courses, e.g. Africa, shown in Figure 2, follow the completion of a questionnaire and a subsequent brief interview at enrollment time in early February. Some students join these courses on a purely voluntary basis to update their knowledge prior to beginning to teach senior classes where examination prescriptions specify case studies and examples drawn from such areas as Africa, South America and the British Isles, as very few university courses centred on them are available.

The composition of the Geography Curriculum Study course itself is outlined in Figure 3. This is a name list of the twelve course units in the formal course outline, which also specifies the scope and "competencies" for each unit. The actual sequence of topics taught to each class is left to the discretion of the lecturer at the beginning of each course. He prepares a

Figure 1
An Outline Schema of a Division C (Secondary) Student's Course

Components	Number of Units[1]	
	Min	Max
A Professional Studies	12	12
B Curriculum Studies (at least 2)[2]	8/12[2]	16
C Subject Studies		8
D Education Studies	6	10
E Personal Studies	4	10
Teaching Practice 13 weeks		
TOTALS	42	44

[1] Each Unit represents 12 hours classwork.

[2] Specialist Curriculum Studies in English, Mathematics and Music are worth 8 points, so that a student taking one of these courses must include a minumum of 12 units of Curriculum Studies.

FIGURE 2

A GENERALISED OUTLINE OF GEOGRAPHY TEACHER PRE-SERVICE TRAINING AT CHRISTCHURCH TEACHERS COLLEGE

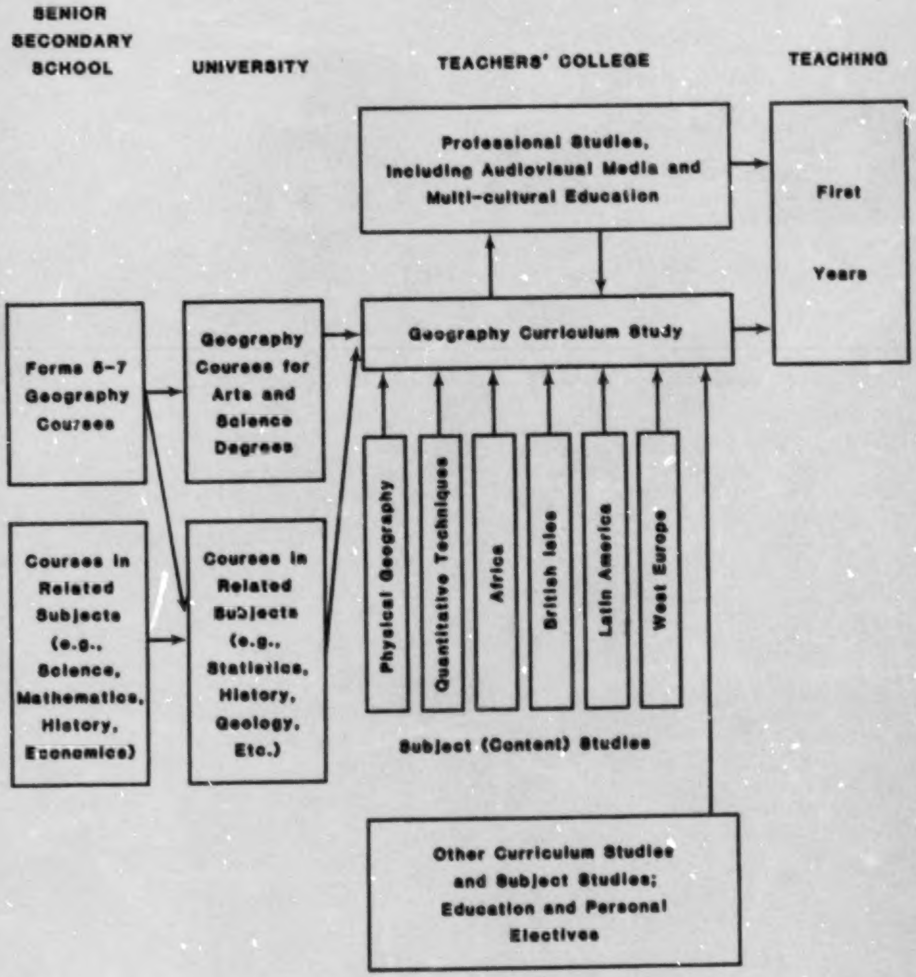
SENIOR SECONDARY SCHOOL
UNIVERSITY
TEACHERS' COLLEGE
TEACHING
Professional Studies, Including Audiovisual Media and Multi-cultural Education
First Years
Forms 6-7 Geography Courses
Geography Courses for Arts and Science Degrees
Geography Curriculum Study
Courses in Related Subjects (e.g., Science, Mathematics, History, Economics)
Courses in Related Subjects (e.g., Statistics, History, Geology, Etc.)
Physical Geography
Quantitative Techniques
Africa
British Isles
Latin America
West Europe
Subject (Content) Studies
Other Curriculum Studies and Subject Studies; Education and Personal Electives

Figure 3
Geography Curriculum Study Course Outline

Unit No.	Topic	Time (hrs.)
1.	Teaching geography - an introduction	4
2.	Current geography prescriptions.	4
3.	Special geographical skills and techniques. Assignment 1 : Exercise design (skills)	6
4.	Developing units of work Assignment 2 : Resource unit compilation	2
5.	Special resources for geography teaching.	2
6.	Fieldwork in goegraphy (including field practice)	6
7.	Review of school section observation and teaching	2
8.	Applying audiovisual skills to illustrate special geography techniques. Assignment 3 : Exercies design.	6
9.	Quantitative techniques in senior geography Assignment 4 : Exercise design (linked with fieldwork)	4
10.	Simulation techniques and hardware models.	4
11.	Evaluation and assessment in geography teaching.	6
12.	First year of teaching.	2
	Total	48

programme to suit his perception of the needs of each class (Figure 4). Whilst most of the Term 1 programme is concerned with Form 5 (geography year 1) work, by Term 2 more emphasis can be given to Form 6 (year 2) geography teaching content and techniques.

Figure 4 also indicates two other aspects of the programme sequence. One of these is the "resource unit," a bigger and more sophisticated type of assignment, which can be set in Term 2 once the trainees have practised their development of techniques with two smaller tasks and gained some teaching experience during the first term. The other less obvious aspect is the study, very early in the term, of the "evolving" curriculum (Young, 1979) and of the Geography Skills Bank (Macauley, 1981), both being references to current developments in New Zealand. Once they have "found their feet" during Term 1, they can be brought up-to-date with the challenging changes in curricula being made during the eighties.

The course does not culminate in attempting a written examination; instead, a pass depends on regular attendance and positive participation in sessions, coupled with the satisfactory completion of four assignments. As a result, the Term 2 programme focusses on the compilation of a useful "resource unit" (Figure 5). The briefing for this assignment is given very early in the term, so that trainees can perceive the main thrust of their commitments, with virtually all sessions seen to assist in building up expertise over a period of 9 1/2 weeks prior to the final submission date. Trainees are encouraged to view the assignment as a project needing consultation with the course lecturer. This is emphasized by trainees being required to submit a brief proposal some ten days after the briefing. Following the checking of these outlines, one or two unsuitable topics may be identified and the titles altered, without prejudice. This process can then provide useful opportunities for tutorial inputs not unlike those made during the writing of a dissertation or thesis.

By timing the assignment to span the second teaching practice "section" of four weeks, we usually find that a few trainees have the chance to try out an activity with their classes, then modify it in the light of the experience. Alternatively, they may put so much effort into a different unit of work taught in the schools that it becomes reasonable for it to be substituted for the original choice.

The value of resource unit compilation is also enhanced by arranging for publication and subsequent sharing with other teachers, if they reach an acceptably high standard, or just within the class as an alternative. Copies of these units compiled in a particular year are supplied free to all participants in the "syndicate," the cost being met by the proceeds of the sale of units to teachers in various parts of the country and some overseas, through the annual catalogue of the Geography Resource Centre, a small-scale, but quite active mail-ordered business, run at the College. It is staffed with an editorial assistant, a typist and a secretarial assistant, all employed on a part-time basis according to need. The centre also publishes 35mm colour slide sets, topographic map extracts and "instructional units" similar to resource units, but written by experienced teachers, and containing a full range of activities.

Figure 4
The Term 2 Programme for a Geography Curriculum Study Class

TERM 2

May	24 & 26	The evolving Forms 5-7 curriculum (1)[1]
	27 & 31	The Geography Skills Bank & Cards; decisionmaking through simulations (3)
June	2 Thursday	Resource unit compilation
	7 Tuesday	Assignment 3 briefing (4)
	9 Thursday	Form 6 resource workshop (periodicals and books) (5)
	14 & 17	Programme organisation (2)
	21 Tuesday	Using theoretical models and case studies (3)
	23, 28 & 30	Geography assessment including evaluations of the 1982 School Certificate and University Entrance papers (11)
July	1 Friday	Teaching 'Section' briefing
	4 - 29	Teaching 'Section', a chance for Assignment 3 (resource unit) activity trials and Form 6 geography teaching.
August	2 Tuesday	'Section' experience workshop (7)
	4, 9 & 11	Simulation and role-playing activities (10); Assignment 3 due August 11.

[1] Relevant Coruse Outline unit numbers are shown in parentheses after each topic

Figure 5
The Components of Resource Units

1. General Title
2. Topic Title
3. Prescription extract/s
4. Resource list ; 8 - 15 carefully selected items, each with a brief comment appended
5. Unit overview
    (a) Outline of ideas and content
    (b) Teaching outline, a summary of the teaching approaches considered most appropriate
6. Lesson sequence
7. Activities, at least two per person, to be compiled in some detail.

The strongest influence in New Zealand on pre-service teacher education in geography is educational thinking and research, partly through the links with the College's "Professional Studies" course and partly through the work of the National Geography Curriculum Committee which has published Syllabus Guidelines (1982) and the "G" series documents, e.g. G3 Geography Field Studies (Department of Education, 1980). The influence of the changing (or widening?) philosophy of geographical science is stronger in two areas of "in-service" geographical education, the fairly frequent, but short (1-2 day) courses run by the various extension studies departments attached to the six universities, with a probable total enrollment of 90 to 100, and the post-graduate diploma course in geographical education run biennially by Massey University, but drawing only 10-12 enrollments. It is sad to record that, within another year or two "negative" economic pressures could exert the strongest influence. This trend is already increasing because teachers college enrollments are dropping rapidly as teacher redundancies follow dwindling school rolls and this results in drastic cuts in the geography graduate intake.

It is twelve years since the previous publication of a paper entitled "Teacher Training for Geographers in the Seventies" in New Zealand (Renner, 1971), so it is interesting to re-evaluate it in the light of subsequent changes. Fortunately, some progress can be claimed where links have been made between teachers college courses in professional studies and curriculum studies in geography, especially during teaching practice sections. With tutors spending more time in the schools, not only writing lesson reports, but also actively assisting by teaching lesson episodes, the effectiveness of training courses has been improved. On the negative side Renner's recommendations for the setting up of a New Zealand High School Geography Project and of a small geographical education research group were never taken seriously, although the American High School Geography Project has continued to provide models for the development of some New Zealand examples (Knight, Buckland and McPherson, 1973; Downes and Fraser, 1979).

What trends did the earlier paper not foresee and what directions may be taken by geographical education in the later eighties? Renner wrote his paper as marked changes were about to take place, during the seventies, in the basic philosophy, content and teaching methods in Forms 1-4 social studies. These have given social studies a base grounded in sociology mixed with some aspects of history, geography, anthropology and other social sciences, linked with much more emphasis on methods of inquiry or "discovery" learning. Although these innovations have not been adopted nearly as wholeheartedly as many had hoped, they have certainly influenced curriculum development in geography and geography teacher training.

In a similar fashion since the mid-seventies the upsurge of interest and participation in outdoor education (McConnell, 1979) and the concern for environmental education have reinforced the importance of the geographer's contribution to development in these fields.

In conclusion we can speculate on possible lines of development for geographical education during the later eighties. If we adopt an optimistic stance, the reduction in roll and class numbers within the teachers colleges could release the lecturers to spend more time organizing in-service courses to bring teachers up-to-date with curriculum development, especially the skills needed to set up school-based programmes for new prescriptions, including a sizeable internally-assessed component. The lecturers could also spend time compiling and/or editing resource materials and teacher guides to facilitate curriculum changes, besides visiting schools as advisers in geography. The adoption of a "negative" position implies either premature retirement or the transfer to unrelated duties of very experienced people in geographical education.

With the world facing a series of crises ranging from regional economic inequalities and environmental pollution to population-food imbalances and nuclear weaponry accidents, there is an obvious need for its inhabitants to be well-schooled in many aspects of geography and related social sciences. Let us hope that every chance will be taken to at least maintain, and preferably improve, the substantial calibre of New Zealand's geography teachers.

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TEACHER EDUCATION IN GEOGRAPHY IN THE REPUBLIC OF IRELAND

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Geography in the Primary School

At the base of the Irish system of education are the National (Primary) schools which educate children up to the age of twelve. Most children are educated in these schools which are non-fee paying and are the responsibility of the State Department of Education. These schools are required to follow a programme of guide lines which are laid down by the State in a curriculum handbook (1). In practice there is variation between schools and the content of the curricula which they offer. This disparity is due largely to the specialist subject area(s) chosen by the trainee teachers while at the Colleges of Education.

Pressures from the second-level institutions influence teaching in the last two or three years of primary education, and this has caused much debate which led to an official committee on the transition between primary and post-primary study (2).

Geography is not taught as such in these schools, but it is included within the programme for environmental studies. Nevertheless, as Hurley has pointed out, geography receives specific attention in the form of a list of activities which might guide the work (3). The new curriculum allowed for much greater flexibility in teaching, but Hurley is driven to the conclusion that the tradition of conformity and uniformity from a centrally received curriculum remains (4). "Teachers' perceptions of the priorities in teaching geography have yet to be reorientated," and there are strong reasons to believe that this is as much due to lack of training and ideas as it is to any desire on the part of the Department of Education, for as another Irish study (5) showed, innovation requires commitment and commitment requires substantial in-service development, not merely a half-day here and a half-day there.

National teachers (the teachers in primary schools) are trained in Colleges of Education. During the nineteen seventies their courses changed from a two year diploma to three and four year degree courses validated by the Universities. There are considerable differences in the approaches of the two Universities. The National University of Ireland, which validates the degrees of the three large teacher training colleges through its constituent colleges in Cork and Dublin, offer a three year programme in which educational studies are paralleled by the study of a major subject. One consequence of this is the encouragement given to the Departments of Geography in the three colleges (6).

In contrast, the University of Dublin (Trinity College), in association with three very much smaller colleges, offers education and training specifically for the new curriculum so that in this context a programme is provided to meet the needs of social and environmental studies as outlined in the Curriculum Handbook (7). A criticism regularly voiced by older primary teachers is that the newer degree courses are more academically oriented than pedagogic. They argue that the younger teachers are not as well prepared to teach as those who qualified in the old Teacher Training Colleges.

The System of Post-Primary Education

Until the early nineteen seventies and in a period when the school leaving age was raised to fifteen, and education was made generally 'free,' children from the primary schools either entered a secondary school or a vocational school. The secondary schools are mainly run by religious organizations with support from the State through salary payments to teachers and grants for a variety of purposes, ranging from building to the furnishing of a geography room.

The Vocational Educational System, run by Local Education authorities and financed directly by the State, provided for those children who could not afford the fees for secondary school. The curriculum in these schools was oriented to subjects likely to be of practical use (e.g. commerce, technical drawing). The effect of this structure was to divide the population roughly along ability lines, the secondary schools taking the more able, and the vocational, the less able. Because in the past 'fees' were small when compared with those in the independent sector in England, many children of low ability entered secondary schools, and in consequence many teachers have for long had the experience of mixed-ability teaching. Many secondary schools opted into the free system, but the divide remains and only recently has been challenged by the introduction of comprehensive and community education. Some forty comprehensive schools have been built, of which four had the totality of buildings associated with the concept of a community education (i.e. sports centre and swimming pool). These schools are run directly by the State.

Children from the second-level system of education may continue beyond the age of fifteen in their schools and between seventeen and nineteen take examinations which will lead either into a university sector or further education sector. The further education sector comprises two National Institutions of Education, The Dublin Institute of Technology, nine Regional Colleges of Technology, and a teacher training college for teachers of metalwork, business subjects, physical education and woodwork. Geography is taught as a main subject in the University of Dublin and the four constituent colleges of the National University of Ireland.

Second-Level School Examinations

There are three secondary school examinations, the syllabus and testing for which is the responsibility of the Inspectorate of the Department of Education on behalf of the Minister for Education. The curriculum is therefore a 'received' curriculum. Control is exerted by syllabus committees which are chaired by the subject inspector(s) and whose members are nominated by the unions, management, and subject associations. The Inspectors employ teachers as advising examiners (markers). Although there have been substantial recommendations for change in the system to allow for the greater involvement of teachers and school based assessment, no government has acted on these recommendations (9), although the present government has committed itself to a curriculum and examinations board.

In the meantime Geography is examined at both the Intermediate and Leaving Certificate examinations. The Intermediate Certificate is now taken by pupils in the age range 14 1/2 to 16 1/2 and the Leaving Certificate taken by pupils in the age range 16 to 18.

At the Intermediate Certificate, English, Irish, and Mathematics are also set at an honours level. Geography and History must be taken, but for purposes of examination they count as half papers. This has the effect of limiting the amount of time given to geography and history in the timetable of the junior cycle of second-level education.

Radical changes in the syllabus for geography were made in 1966 and 1969 and some minor changes were made in 1972 and 1974. Hallinan reports that the changes were due in no small measure to Gwenda Hurst (10). In principle, the idea that world coverage was desirable was dropped and ordinance survey mapwork and photographs were introduced into the examination. In 1973, a lengthened geography course was introduced which began with a broad statement of aims. Hallinan (11) reports that many innovations were considered by the syllabus committee but found to be impractical, as for example, the assessment of coursework for which the teacher unions wanted payment. A new style examination was proposed in which both completion and multiple-choice questions were included. It was criticized by the research unit of the Intermediate Certificate Committee on the grounds that: (a) a ten item multiple choice test is likely to be unreliable; and (b) that the short answer items could all be turned into objective terms. It supported its argument with reliability measures obtained from the example test then in circulation (12). Hallinan argues that "improvements in teaching methods were being constantly encouraged through innovation in the examination paper" (13) and this, despite the psychometric criticism, seems to have been the case. The failure to provide for the assessment of field work is regrettable.

The Leaving Certificate Examination

Most students who take the Intermediate Certificate examination go on to take the two year senior cycle programme which culminates in the Leaving Certificate examination. Although many fail to complete the course, some 41,000 (1982) pupils take the examination, but of these only 500 or so enter university type courses. The examination is taken at two levels, pass and honours. The universities and colleges in the higher education sector use it as a means of selection. Points are awarded against grades obtained. Some faculties require specific subjects to be taken as a condition of selection into the courses offered. Because the examination is used as a means of selection to university, and as in Britian, the universities are able to influence the syllabi, it is widely held that this situation is harmful to the development of the examination. The points scheme is thought to operate against effective pupil-learning and to be an unwarranted pressure in the system. It has been suggested, for example, that there should be a third year after the pupils have taken the Leaving Certificate in which those who want to enter the university should prepare for a matriculation examination. It has also been suggested that anyone should be able to avail themselves of that year which should be run by the universities (14). The introduction of an additional year would have considerable impact for the teaching of subjects in the senior cycle, and it may possibly allow for greater depth of study in individual subjects.

Between 1978 and 1980 the Intermediate and Leaving Certificate syllabus committees combined to work on a new syllabus. They produced two reports which described the present situation, and reviewed developments in geography teaching in other countries. From these new documents on modern philosophies of geography, the role of geography in education and the aims and objectives of the geography curriculum were evolved.

Hallinan (15) summarizes the work as "the content of the draft Leaving Certificate syllabus is to be based on a man-environment framework focused on six main themes: the natural environment; natural resources; agriculture and agricultural systems; society and settlement; secondary and tertiary economic activities; and regional studies." For assessment purposes, field studies are considered separately. The Association of Geography Teachers of Ireland debated these proposals and submitted alternative syllabi to the Department, and that is the present position. Hallinan argues that the detailed construction of syllabi with statements of aims, objectives, and suggestions about methodologies is more likely to encourage interest in geography than the "slim, vague syllabus document bearing, perhaps, more resemblance to the extremely unhelpful syllabi which prevailed for too long in the Irish school system" (16).

Pupil Interest in Geography

The genesis of the last remark is the fact that since 1979 French and Biology have overtaken Geography as the most popular elective subjects for the Leaving Certificate. However, as Gillmor shows, this is representative of a long-term proportional decline in the number of candidates taking Geography (87% in 1960 to 44% in 1982). The number of candidates peaked at 20,281 in 1977 (17). The relative decline in participation has been greater among females than males. Geography is now the sixth most popular subject. Gillmor shows that for males the competing subjects are Biology, French, Economics, and Technical Drawing, whereas for females they are Biology, Mathematics, French, Business Organization, Economics, and Chemistry.

Gillmor (18) advances seven reasons for the decline in interest in Geography. First, although the numbers taking the Leaving Certificate have substantially increased, this has been in past due to the entry of vocational sector pupils into the examination. By tradition the orientation of these pupils is toward vocational (technical and commercial) subjects. Second, in so far as the junior cycle timetable is concerned, Geography is counted as half a subject, and for this reason pupils may be inclined to treat it less seriously than subjects which have unitary value. There has been a decline in the proportion of pupils taking Geography in the Intermediate Certificate. Third, it is thought that some pupils may believe the senior cycle syllabus to be too long and its book requirement too expensive. Fourth, the Leaving Certificate curriculum has been broadened with the effect of giving pupils a wider range of subject choice. Fifth, although the compulsory subject grouping which favoured technical studies was never introduced, this idea which was put forward by the Department of Education may have influenced guidance counsellors in their attitudes to subject and career choice. Sixth, its value as a vocational subject may be questioned. Seventh, the requirements of the National University for Irish, in its matriculation, limit choice in the Leaving Certificate, a choice which is further restricted by individual faculty requirements. Finally, the method of election to higher education which relies on a point system means that pupils will choose those subjects which they believe will gain them the largest number of points. Gillmor says that teachers believe that the reason why pupils, and in particular those of high ability, are lost to the subject is that they perceive it more difficult to get a good grade in Geography than in other subjects.

Regulations for the Training of Second-Level Teachers in Ireland

Mention has been made (section 1) of the requirements for training teachers for primary schools. Such teachers cannot teach in secondary schools without the acquisition of a Higher Diploma in Education, and this will be conditional on their being able to show that they have read two subjects to degree level (which is defined as three years of study at a university).

The Higher Diploma in Education is the teaching Diploma required by graduates before they can teach in secondary schools. It is equivalent in most respects to the British Post-Graduate Certificate of Education. They also require a qualification in spoken Irish. Once a graduate has been registered by the Secondary Teacher Registration Council he may not only teach in a secondary school, but may teach any subject in the programme. This is a matter of debate among members of the Registration Council, some of whom believe a teacher should only be able to teach the subjects in which they have graduated.

Teachers who intend to teach in the vocational and comprehensive sectors do not require a teacher training qualification although they require a qualification in Irish. Increasingly, however, applicants for posts in these schools are required to have a Higher Diploma.

The Registration Council states the broad framework of the teacher training courses acceptable for exemption from its requirements. In consequence all Higher Diploma courses in all the University institutions are structured along similar lines. Substantial courses are provided in the History, Philosophy, Psychology, and Sociology of Education, together with teaching methodology in relation to two subjects. Other options (e.g. educational technology, measurement) are included in their courses.

Such curriculum development as has been undertaken to date has been done outside the secondary school system and has been centered in the comprehensive schools (based on St. Patrick's School, Shannon) or the Dublin Vocational Education Committee. The Department of Education has also encouraged the development of a transition year, with a large vocational element, between the end of the junior cycle and the beginning of the senior cycle. Many of these developments have been aimed at the less able. Apart from the transition year, these developments have had to face the difficulty of having no suitable examination at the Intermediate Certificate level. They have not, therefore, made a large impact on the system.

Because the University departments have not been involved in these innovations, they did not experience the evolution of curriculum development into substantive curriculum studies which their British counterparts underwent. However, a substantive thrust has been made into the area of curriculum studies at both the Higher Diploma and Master levels (19) and courses in curriculum studies have emerged in their programmes. This is not to say that the elements of curriculum design and evaluation are not dealt with in methods; they are. It is to say that teaching is now being underpinned at a more general level, as well as, in the other courses on offer.

Candidates for the Higher Diploma are required to have 66 hours (under revision for 100 hours) actual experience of teaching classes during the year of their Diploma study. To achieve this goal it has been the practice for them to teach in school in the mornings throughout the whole of the school year. They attend the University during its normal lecture times in the afternoon and they have around 250 hours of class contact during this time which approximates that provided on many British University P.G.C.E. courses. In contrast with their British counterparts the Irish courses are heavily examined and assessed.

During the last three years St. Patrick's College, Maynooth (National University of Ireland) has changed the pattern of its studies. During the academic year their students teach in schools through Mondays and Fridays and attend University on Tuesdays, Wednesdays, and Thursdays. University College Dublin, is also experimenting with an alternative system.

Entry to the courses of the National University of Ireland has, in the past been open to any graduate of that University. This means that the four Colleges between them accept nearly 1200 students per year of which between 25% and 30% manage to get whole time teaching jobs when their course is completed. There are usually far more applicants than the 140 places at Trinity College will allow. It may be expected that in these harsh conditions of unemployment some graduates will be steered away from teaching. There is no doubt that some see it as a useful addition to their education, and it is around its general vocational appeal that a debate about numbers is likely to ensue. By and large, the applicants have to pay their own fees and are not supported by State grants. This influences the structure of courses and it is difficult in some instances to prevent students from obtaining paid work. When they do, it is evident that their academic work suffers.

One other organizational factor which influences performance is the fact that the Department of Education requires the results of the Diploma to be graded in honours. A good honours qualification receives a considerable salary bonus as against a pass grade. This is a major reason for the heavy load of examinations on the course. Teaching practice does not contribute very much to the overall grade when all the marks are taken into account, and since it seems that there is no necessary relation between performance in the classroom and performance in written papers this is something which is in need of remedy.

Because the students are in the classroom throughout their study, the course begins with an induction fortnight in which the students are provided with a survival kit. This includes group work on discipline and motivation, micro-teaching, lesson planning, concept learning and aids in the classroom. This work is followed up throughout the year in the Applied Psychology of Instruction, the methods lectures and workshop. There is, therefore, a core programme supporting methods work. In the Applied Psychology of Instruction particular attention is paid to perception and perceptual learning, concept acquisition and cognitive development, and instructional strategies (expository versus discovery, projects, field work, etc.). Included are problem solving and decision making, and the appraisal and relevance of these to lesson design and implementation.

The methods programme is accompanied by two substantial exercises. An example of one of these exercises which shows a student designed junior cycle curriculum in geography incorporating objectives, key concepts and learning strategies for their attainment has been published in full elsewhere (20).

At present one of these assessments is chosen by the student and the other by the course tutor.

At University College, Dublin, geography methods assessment is achieved by a 5000 word dissertation which accounts for one-twelfth of the total mark of the Diploma. The geography tutors in the universities are committed to field work and normally arrange for field work during the programme. As Holland has noted (21), the study of the local environment is becoming more important.

However, while this presents a rather rosy picture, Holland has been severely critical of both geography and teacher education departments. First, they have been understaffed, particularly in the National University. Second, there are some areas of geography which are not taught in the universities which have to be catered for in the Higher Diploma course at the expense of methods. Third, while methods teaching is conversant with, and concentrates on, current issues in the teaching of geography and the applied psychology of instruction, students believe that the examinations require them to concentrate on information-giving for pupil memorization. This means that skills and concept developments go by the board and poor teaching often ensues.

Despite the interest in field work, the examination does not include an assessment for such work so teachers do not rate it as important even though they believe it should have significance. Holland writes, "Geography teachers need to free themselves from some of the ways in which they themselves were taught and be freed by the Department of Education from the constraints of an overloaded content-based syllabus. Then and only then will real progress occur" (22).

But apart from the examination it is also possible that the high level of teaching in the universities can lead to a poor performance in schools since the teachers may confuse the aims and objectives of a university geography department with the teaching of geography in schools. Not only would good teaching be encouraged by changes in the examination and syllabus, but also by collaboration between geography and teacher education departments during the programme of undergraduate study. But these remarks apply as much to the other subjects of the curriculum as they do to geography.

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TEACHER EDUCATION FOR AUSTRALIAN GEOGRAPHY TEACHERS

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> ... the kind of education provided for teachers is an expression of social patterns, history and attitudes. The practices and patterns of teacher education are based on assumptions - implicit or explicit - about the aims and objectives of schooling, and these in turn are based on assumptions about the aims and objectives of the society.
> (Commonwealth of Australia, 1980:4)

INTRODUCTION: TRENDS IN TEACHER EDUCATION IN AUSTRALIA IN THE 1970s INTO THE 1980s

Education in Australia is based on State control over the schooling of children. Teacher education in Australia has changed during the last decade as curriculum designers and administrators continue to determine the current aims and objectives of school and society and the kinds of preservice intervention that really influence student teacher behaviour in the classroom. The construction and implementation of relevant teacher education courses have continued during the 1970s and into the 1980s. These courses are a reflection of the following trends during the last decade:

1. the growth of autonomous, multi-purpose tertiary institutions;
2. the decline in demand for teachers;
3. the rationalization of institutions engaged in teacher education;
4. an acknowledgement of the need to provide for a multicultural society;
5. the increased use of specialist teachers, especially in secondary schools;
6. the impact of audiovisual and computer technology on teaching; and
7. an acknowledgement of in-service teacher education as a continuing process of professional development.

Most teachers in Australia were educated either in teachers' colleges controlled by State Education Departments or in universities where teachers studied with the support of a State scholarship until the mid-1970s. The Federal Government granted autonomy to all institutions in the college sector in the mid-1970s. Nowadays, teachers are educated in (i) colleges of advanced education which have developed into multi-purpose institutions of which teacher education is the main strand, and (ii) in universities. Government financial support to student teachers has decreased to the extent that there are a minimal number of scholarships available. Most tertiary students, including trainee teachers, now obtain means-tested financial assistance from the Tertiary Education Assistance Scheme (TEAS) operated by the Federal Government.

The decline in demand for teachers throughout Australia since the mid-1970s has dampened the motivation of some capable students to become teachers. In 1962, there were 20,000 full-time students engaged in preservice teacher education at Australian colleges and universities (Commonwealth of Australia, 1965:105). The pre-service teacher numbers peaked at 53,000 equivalent full-time students in 1976. However, by the mid-1980s, projections indicate a demand for 35,000 full-time pre-service teacher education students (Tertiary Education Commission, 1979). Considerable internal migration has occurred in the early 1980s in Australia resulting in abnormal demographic growth in States such as Queensland. Therefore, demand for teachers in States such as Queensland will increase in the 1980s and run counter to the national trend.

One major political consequence of the declining demand for teachers has been the rationalization of institutions involved in teacher education. This rationalization began in 1981. Thirty of these institutions have been amalgamated in various forms by the Federal Government into 11 large institutions in an effort to "streamline" teacher education in Australia.

The Federal Government and the teacher education institutions acknowledged, during the late 1970s, that Australia was a multicultural society and that teachers ought to be able to understand and to teach effectively in such a society. The response by teacher education institutions has been to include appropriate objectives in their courses to promote multicultural education. Generally, pre-service teacher educators incorporated multicultural education within existing courses rather than through the development of special courses.

The increased use of specialist teachers, i.e. teachers occupying specialist roles, in Australian schools, especially in secondary schools, during the last decade has placed demands on teacher education institutions to diversify their pre-service offerings. The trend to subject-area specialists in secondary schools continues into the 1980s. This trend can be accommodated within existing institutions. It is the trend to specialists such as remedial teachers, resource teachers, teacher librarians and careers advisers that must be satisfied by additional courses. Most of these courses are undertaken by practising teachers and are not of a pre-service nature. Unfortunately, there is no perception yet of the need for specialist geography teachers.

Australian schools have reflected the impact of audiovisual and computer technology on teaching in the increased range of resources and equipment. Electronic equipment, computers and video systems are becoming common in Australian schools. This trend affects the teaching practices of most teachers and so all pre-service teacher education courses are being adapted to accommodate the demands of technology. Teachers are developing competencies in some of the new technologies and are practising methods for implementing strategies involving the use of technology.

A recent trend in Australian teacher education has been an acknowledgement that teacher education is a continuing process of professional development. The pre-service education of teachers is acknowledged as only the first stage of this professional development and should be followed up by in-service education at regular intervals. In a formal sense, the design of courses to enable holders of a three-year pre-service Diploma of Teaching to convert their qualifications into a Bachelor of Education recognizes this need for continuing professional growth. In addition, federal funds, administered by the States, are available to schools, groups of teachers and individual teachers to further their professional development. Staff at Australian teacher education institutions may use some of these funds to promote in-service educational activities with teachers.

TRENDS IN THE EDUCATION OF AUSTRALIAN GEOGRAPHY TEACHERS IN THE 1970s INTO THE 1980s

Each State trains geography teachers for its own educational system. These teachers receive geographical education studies relevant to the curriculum prevailing in their State. Interstate movement of geography teachers is not widespread. Such movement may occur when one State experiences a shortfall in the supply of qualified geography teachers or in the interstate movement of teachers in the non-government school system.

In the last decade a number of trends concerning the education of Australian geography teachers have become evident. These trends are specific reflections of national trends in teacher education. They include

1. a decline in the number of geography teachers being prepared for Australian schools;
2. a changed philosophy towards geographical education;
3. changes in the accreditation of courses for geography teachers;
4. influence of different approaches to the discipline of geography;
5. a changing approach to curriculum development in geography;
6. a move from a discipline approach to an integrated approach; and
7. a growth in the concept of the teacher as a classroom researcher.

The decline in the number of geography teachers being prepared for Australian secondary schools reflects the national pattern of declining numbers of teachers. Institutions such as large universities which produced 60 postgraduate pre-service geography teachers annually in the mid 1970s now prepare between 20 and 30. A similar situation exists in colleges of advanced education, except in Queensland where the recent increases in numbers of school students have necessitated preparing more geography teachers. In fact, some institutions in some States no longer prepare specialist geography teachers. Rather, they have rationalized their course offerings and provide for pre-service geographical education with in-service education curriculum studies programs.

A changed philosophy towards geographical education has developed in teacher education institutions during the late 1970s. In the early 1970s, teacher education courses consisted of studies in geography teaching method. These courses emphasized the development of practical skills authorized by textbooks such as Long and Roberson (1966) and the use of educational theory to underpin geography method. This philosophy did not promote a very practical approach to geographical education.

Since the mid-1970s, lecturers have adopted an approach involving greater student teacher autonomy, more personalised instruction, and an increased variety of learning experiences focused on practical activities, especially workshops. As a result, lecturers have developed an experimental philosophy towards geographical education. Nowadays, there is less need to introduce aspects of teacher education courses from a theoretical viewpoint. Instead, the variety of practical activities is authorised by means of educational theory.

Changes in the accreditation of courses for geography teachers in Australia are part of the national trend to offer institutions more control over their teacher education courses. Until the early 1980s, teacher education institutions relied on the Board of Advanced Education in that State to approve the teacher education courses. By the mid-1980s each teacher education institution will have established its own course review committee to recommend the accreditation of teacher education courses. Even though the relevant Board of Advanced Education will have final accreditation powers, institutions should have the ability to exercise a more effective control over their teacher education courses.

The evolution of different approaches to the discipline of geography has been reflected in the training of geography teachers in Australia, especially in the strategies for learning. The landscape and regional approaches to geography tended to dominate teaching and learning in Australian classrooms during the 1970s. As a result, geography teachers emphasised descriptions of landscapes and regions. Late in the 1970s, the spatial analysis approach to geography was reflected in the growth in popularity of quantitative studies and systems thinking in geography courses. The 1980s have witnessed an emergence of humanistic and welfare approaches to geography. Here the foci of personal viewpoint and a concern for one's and other people's feelings and well-being have promoted a growing consideration of decision-making and values education in geography teaching. Courses preparing geography teachers in Australia have included most of these changing approaches in strategies for teaching and learning, eg. simulations, open-ended inquiries, and values probing tasks.

The trend to an integrated social science preparation course from the usual discipline approach is visible, but not widespread. Some States use an integrated social science curriculum for the first 10 years of formal education and only permit the separate study of geography in the final two years of secondary education. In another State, a social science preparation for secondary teachers has grown in popularity because of the demand for geography teachers and the administrative responsibility for teaching geography, economics and commercial subjects in secondary schools. If this trend continues, then the preparation of geography teachers nationally could be in jeopardy, particularly as more schools warm to the idea of a core curriculum which includes a consideration of social science and the environment as part of the core and geography falling in between.

A very recent trend evident in the preparation of geography teachers in Australia is the focus on the teacher as a classroom researcher. This trend is occurring because of the desire by lecturers to promote a greater understanding of learners as well as the learners' development of skills and reasoning in geography. As well, this trend is occurring as geography teachers are encouraged to find out about the context in which learning in geography takes place. While it is not yet widespread, the concept of the teacher-as-researcher is being vigorously diffused via conferences, research reports and general articles (Fien, Gerber, Wilson, 1982; Fien, Wilson, Slater, 1982; Wilson and Goodwin, 1981; Wilson and Widt, 1982).

These trends indicate that the preparation of geography teachers in Australia has undergone dynamic evolution in the 1970s and into the 1980s. The actual nature of this evolution may be determined from an examination of a model of the professional development of geography teachers.

A MODEL FOR THE PROFESSIONAL DEVELOPMENT OF GEOGRAPHY TEACHERS IN AUSTRALIA

Geography teachers in Australia develop abilities to plan, to implement and to evaluate teaching/learning in geography as a consequence of a range of key influences. These influences are represented graphically in the accompanying model (Figure 1). They consist of four major sub-groups:

1. the school context in which geographical education occurs;
2. theoretical underpinnings derived from the discipline of geography, the sub-discipline of geographical education, knowledge about learners and how they learn, and the process of curriculum development;
3. educational research; and
4. continuing and in-service education.

Geography teachers in Australia are prepared largely for the educational systems operated within each State or Territory. These educational systems consist of two main types, a State or Territory government-run system of schools available to all students and a non-government system of schools largely administered by different religious denominations. These two educational systems implement the same general school curriculum for each State or Territory. As well, there is a growing trend to adapt State or Territory curricula to individual schools. This growing emphasis on the school context implies the need to train geography teachers who are competent in the skills and strategies of geographical education and who are competent in school-based curriculum development. Such beginning geography teachers need to have extensive experience in the process of geographical education so that they feel competent to address the many issues of school-based geographical education.

This emphasis on the school context may be maximised in training geography teachers if fieldwork, the planning of units of study and school-based curriculum development principles and practice in them form a key component of the training program.

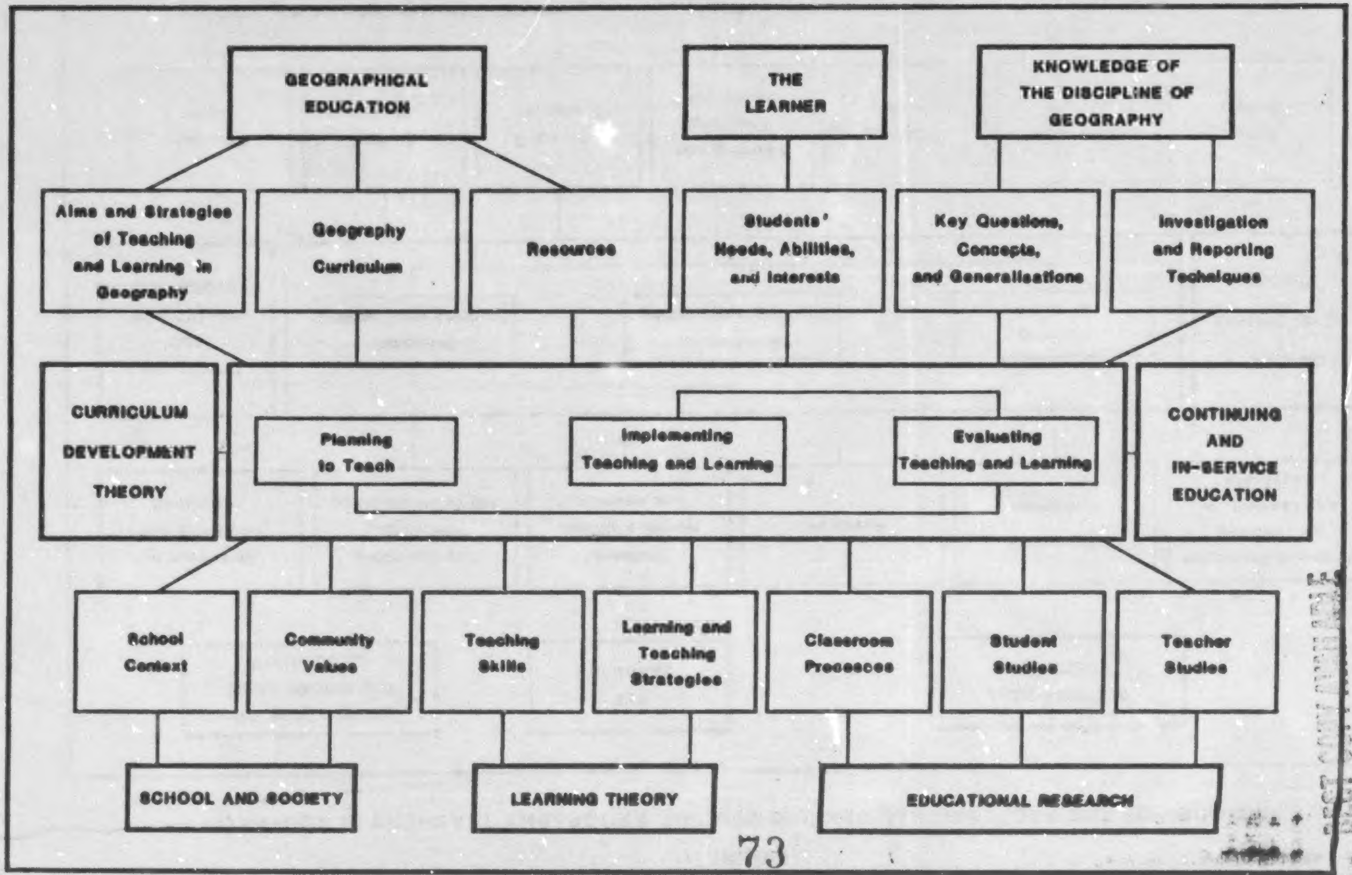
The theoretical underpinnings important to the training of geography teachers in Australia are derived from four main areas of knowledge -

(a) the sub-discipline of geographical education;
(b) the discipline of geography;
(c) the learners; and
(d) the process of curriculum development.

The emerging sub-discipline of geographical education is a fundamental influence in the training of Australian geography teachers. Cox (1980) postulated that the sub-discipline of geographical education consists of the concept of curriculum, the application of key geographical concepts the activities of teachers plus aspects of the discipline of geography, e.g. maps,

FIGURE 1

A MODEL OF THE PROFESSIONAL DEVELOPMENT OF GEOGRAPHY TEACHERS IN AUSTRALIA


GEOGRAPHICAL EDUCATION
THE LEARNER
KNOWLEDGE OF THE DISCIPLINE OF GEOGRAPHY
Aims and Strategies of Teaching and Learning in Geography
Geography Curriculum
Resources
Students' Needs, Abilities, and Interests
Key Questions, Concepts, and Generalisations
Investigation and Reporting Techniques
CURRICULUM DEVELOPMENT THEORY
Planning to Teach
Implementing Teaching and Learning
Evaluating Teaching and Learning
CONTINUING AND IN-SERVICE EDUCATION
School Context
Community Values
Teaching Skills
Learning and Teaching Strategies
Classroom Processes
Student Studies
Teacher Studies
SCHOOL AND SOCIETY
LEARNING THEORY
EDUCATIONAL RESEARCH

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widely adopted teaching procedures, e.g. field activities, and issues germane to the emerging sub-discipline, e.g. aims of geographical education. These elements provide the basis of much of the study undertaken by geography teachers in their pre-service training. A knowledge of the interrelationships between the above elements has come to be regarded as essential for Australian geography teachers. For example, the development of the ability to teach geography is closely related to the development of an understanding of geographical concepts, the relevant school geography curricula, the development of a range of skills, a series of field activities and an understanding of the concept of inquiry learning.

Most programs for the pre-service education of geography teachers in Australia are developed on the premise that teachers need to have a firm grounding in the discipline of geography before they can learn and develop strategies and programs for teaching or learning. These studies in geography vary in number and length depending on the tertiary institution. For example, in a Bachelor's degree (at pass level), studies in geography would normally consist of a major study over a three year period followed by one year's education studies. Usually, a major studies in geography would involve a breadth of studies which focus on physical, human, and environmental studies, as well as studies in geographical techniques. In a Diploma of Teaching course, the study of geography is slightly less because the discipline studies and the education studies all take place in a three year period.

There are at least two variations to the above generalisation. Each variation consists of a blending of geographical and education studies in a course. The first variation consists of preliminary studies in geography followed by educational studies and finally additional geographical studies. This variation had been implemented to: provide a basis in discipline studies; develop curriculum studies in geography; and finally, to broaden the teachers' discipline through a careful selection of advanced geographical studies. The second variation, implemented in a Diploma of Teaching course, is a distinctive attempt to blend geographical studies with geographical education studies. In this variation, each semester course of study contains some curriculum applications. Such an approach is built upon a process approach to geographical education. It is couched in the philosophy that geography teachers are predominantly teachers who promote learning via the medium of geography, rather than geographers who use education to promote their discipline.

The influence of the discipline on the professional development of geography teachers is reflected in the changing emphasis placed on discipline studies which these teachers undertake. Geographical studies in development, social justice, welfare, perception, politics, leisure and recreation are becoming popular discipline studies instead of regional and systematic studies. Knowledge in these contemporary approaches to geography is then used to develop contemporary school studies in geography. Inherent in the changing emphasis on discipline studies in geography are changes in the technique employed. Increasing considerations of decision making, impact studies, values clarification and values probing are evident in discipline studies undertaken by geography teachers. One problem with this approach is its low priority on general world knowledge.

Programs of geographical education in Australia regard the geography teachers' understanding of the learners and how they learn as crucial to planning and implementing successful school geography courses. A considerable number of geographical education lecturers in Australia have conducted a variety of comprehensive research activities into the learner in geography. Studies of the learners' abilities to think geographically, draw maps, understand the signs on maps, understand their local environment and to transform verbal and graphic information have provided an increasing range of findings which are passed onto their students. The geography teachers use these findings to develop more realistic geography curricula, units of study, lessons and evaluation instruments.

The above conclusions are reinforced by careful reference to learning theory. Geography teachers have become aware of and competent in the planning, implementation and evaluation of a range of learning/teaching strategies. These strategies focus on a range of strategies so that the learners experience variety in their geography lessons. Inductive and deductive models of teaching increasingly are employed, but there is still evidence that Australian geography teachers use a considerable amount of expository teaching. Consequently, teacher education courses tend to emphasise strategies which are student-centered. The variety of strategies which are categorized as enquiry learning experiences are popular at present. In addition, strategies using direct observation, decision-making and simulation are promoted during teaching practice or during micro-teaching experiences. Overall, then, theories and research conclusions about the learner in geography are applied to the actual teaching/learning of the subject to produce a more informed geography teacher.

However, graduating geography teachers trained in such methods sometimes find barriers to their implementation in the early years of their teaching. Walford (1981) and Smerdon (1982) have commented on this and suggest the problems lie in four main areas: (i) pre-service training; (ii) the school situation; (iii) student expectations; and (iv) in-service training. Curriculum theory has become quite pertinent to the preparation of geography teachers in Australia in recent years. Australian geographical educators have undertaken advanced studies locally or overseas. Elements of curriculum and curriculum design have been used deliberately to show geography teachers how their State's geography curricula have been developed and how they may redesign or adapt these curricula to particular school contexts. School-based curriculum planning is prevalent in a number of Australian States. Therefore, geography teachers need to be trained in the process of curriculum development so that they can function effectively in curriculum activities of their schools.

The findings of educational research are crucial to the improvement of geographical education programs for Australian teachers. Mention has been made of the value that research into the learner in geography has had in determining the expectations of teachers as they plan lessons and units of study. Educational research into school settings, community expectations and teaching skills has been applied to specific curriculum areas such as geography to help teachers understand the components of their school's setting and context, as well understanding and being competent in the skills of a teacher, e.g. question techniques, classroom management and pacing a lesson. Research into classroom strategies and teaching methods have provided useful guides for action in teaching geography. However, the most interesting use of educational research in geography teaching programs in recent years has been the development of the geography teacher as a researcher. This concept has been implemented in some of the more adventurous teacher education programs throughout Australia. It offers the teacher an understanding of classroom research and the benefits of such research to improve teaching and learning in geography via diagnostic studies of students' perceptions and understanding and analyses of different teaching strategies and styles.

Finally, aspects of continuing and in-service education are introduced to training geography teachers. In Australia, continuing and in-service activities are fundamental to the professional growth of geography teachers. These activities are promoted by Geography Teachers' Associations, special interest groups, of which geographical education lecturers are major contributors. Training geography teachers are encouraged to participate in these in-service activities. In fact, many become members of their local Geography Teachers' Association so that they can become aware of and participate in a wide range of continuing and in-service activities, e.g. workshops, conferences and unit writing activities. A prime purpose for continuing and in-service education to have an impact on the training of geography teachers in Australia is that by engaging in such activities, geography teachers develop and broaden their information and resource networks.

The above influences have been shown to be important in the training of Australian geography teachers. However, how are these influences translated into teacher education programs?

PATHWAYS FOR TRAINING GEOGRAPHY TEACHERS IN AUSTRALIA

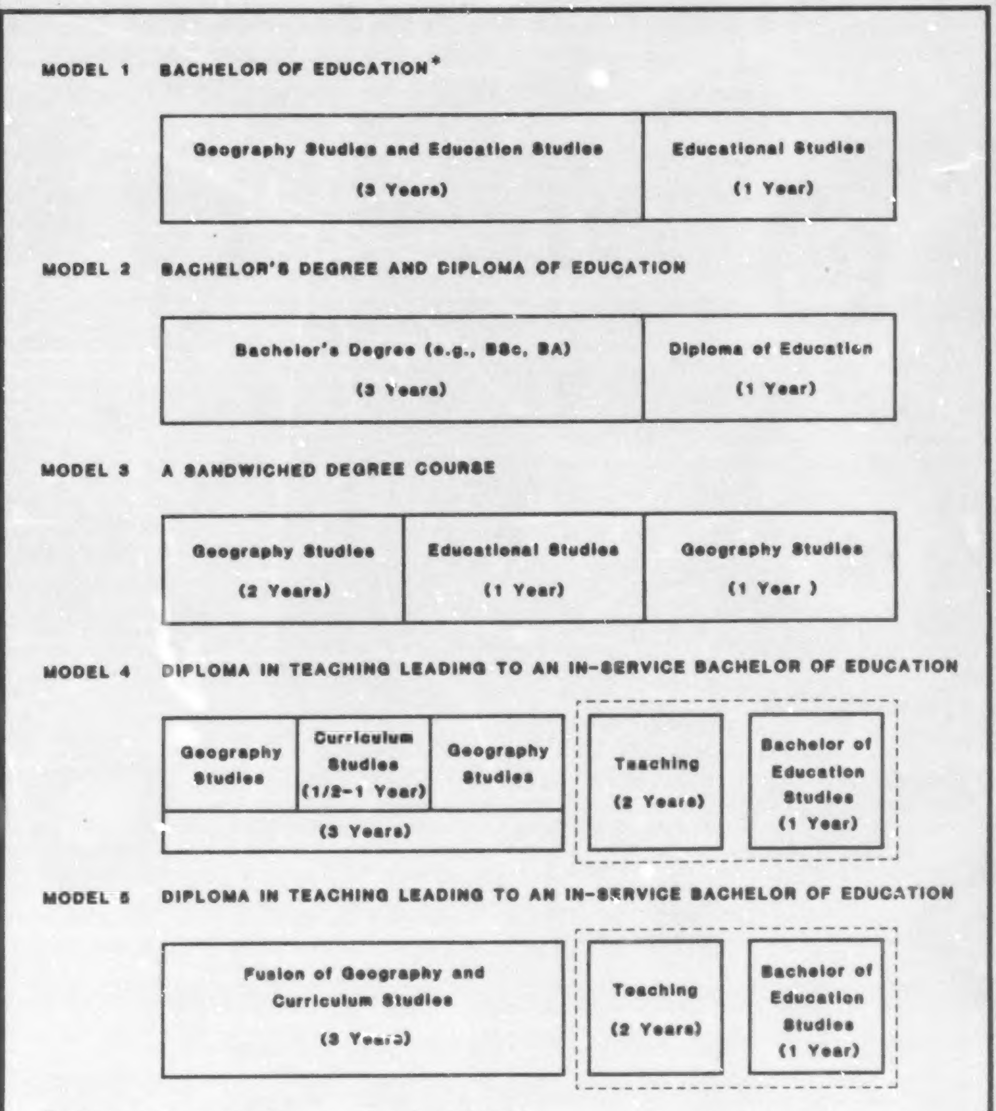
Geography teachers in Australia follow one of four models of preparation in their pre-service education. These pathways are represented graphically in Figure 2. Three of these models involve the acquisition of a Bachelor's degree including or appended by educational studies. The fourth model involves the acquisition of a Diploma in Teaching leading to a Bachelor of Education. More specifically, each of the models has distinctive characteristics:

Model 1 consists of four years of full-time pre-service teacher education. The first three years of study involve a concentration on discipline studies in geography, as well as education studies. The fourth year consists of studies in education which include a strong emphasis on geographical education. A distinctive aspect of this model is that students are involved with schools during the whole of the course. This involvement with schools is of an observational and an interactive nature for the first two years and involves supervised teaching practice in the third and fourth years. Such a course is usually conducted at a university in Australia.

Model 2 consists of two discrete components - a Bachelor's degree focusing on one or more discipline studies usually undertaken in a fulltime basis at a university or an institute and a Graduate Diploma in Education. The educational studies are only undertaken in the one-year graduate diploma studies. The rationale for such a preparation is that geography teachers need to be competent in the discipline before they learn how to develop teaching

FIGURE 2

COMMON EDUCATIONAL PATHWAYS FOR AUSTRALIAN GEOGRAPHY TEACHERS


MODEL 1 BACHELOR OF EDUCATION*
Geography Studies and Education Studies (3 Years)
Educational Studies (1 Year)
MODEL 2 BACHELOR'S DEGREE AND DIPLOMA OF EDUCATION
Bachelor's Degree (e.g., BSc, BA) (3 Years)
Diploma of Education (1 Year)
MODEL 3 A SANDWICHED DEGREE COURSE
Geography Studies (2 Years)
Educational Studies (1 Year)
Geography Studies (1 Year)
MODEL 4 DIPLOMA IN TEACHING LEADING TO AN IN-SERVICE BACHELOR OF EDUCATION
Geography Studies
Curriculum Studies (1/2-1 Year)
Geography Studies
(3 Years)
Teaching (2 Years)
Bachelor of Education Studies (1 Year)
MODEL 5 DIPLOMA IN TEACHING LEADING TO AN IN-SERVICE BACHELOR OF EDUCATION
Fusion of Geography and Curriculum Studies (3 Years)
Teaching (2 Years)
Bachelor of Education Studies (1 Year)

*A Bachelor's Degree is generally a Pass Degree.

strategies and learning experiences in geographical education. The main components of such graduate diploma courses specific to teaching geography include: the nature and aims of geographical education; lesson, unit and curriculum planning; teaching/learning strategies; the learner in geography; and evaluation. As well, students undertake general education studies which focus on societal aspects and learner attributes. Practice teaching in schools and micro-teaching experiences are the main means by which students put their educational theory into practice. Such one-year end-on courses tend to be a very intensive year of education in which budding teachers have to come to grips with the skills of teaching in a short time. However, they do allow students to complete a large range of discipline studies before they need to decide to become teachers.

Model 3 is another variant by which students may obtain a Bachelor's degree and educational studies in four years of full-time study. In fact, the educational studies are sandwiched between discipline studies. The basic philosophy of this model is that students need a basic competence in discipline studies before they undertake educational studies. After educational studies, including geography curriculum studies, students then have the opportunity to complete further discipline studies to enhance their understanding of geography.

Model 4 is a composite arrangement which includes both pre-service and in-service education to acquire a Bachelor of Education degree. The pre-service component consists of three years full-time study at a college of advanced education to obtain a Diploma in Teaching which enables students to undertake major or minor curriculum studies in geography. After they have taught for at least two years, teachers may then convert their Diploma in Teaching to Bachelor of Education by completing the equivalent of one year's full-time study. There are two variations to this models and each reflects a different philosophy towards geographical education. The variations occur in the pre-service component of the teacher education course. The first variation consists of the more conventional approach of discrete discipline studies in geography and separate studies in geographical education which focus on methods and strategies for teaching geography. Training teachers undertake general education studies throughout the three years of pre-service preparation. The more creative approach to preparing geography teachers in the Diploma in Teaching course is to integrate geography and geographical education studies. During this variation, training geography teachers undertake units of study which emphasise either geography or geographical education. However, there is an element of geographical education in all units of study, instead of discrete discipline studies. For example, in a unit on human geography training teachers learn the major concepts, techniques and approaches to human geography, as well as considering some appropriate strategies for teaching aspects of human geography to secondary school students.

Each of the above models reflects the philosophies of the course designers to geography and geographical education and each is viable in the Australian context. Specific variations in the geographical education components of each of these models occur as differing philosophies are implemented in each course. For example, in one course emphasis is placed on models of teaching whereas another course considers teaching/learning settings and still another course considers teaching strategies in geography. Despite these variations all courses of pre-service geographical education in Australia have the following common elements:

(i) an understanding of the nature and aims of geographical education;
(ii) an awareness of, a competence in and practice teaching of a range of teaching strategies, especially using student inquiries, fieldwork, valuing and simulations;
(iii) competence to plan, implement and evaluate lessons, unit and school geography curricula which apply to the relevant State education system;
(iv) aspects of evaluation; and
(v) an understanding of the abilities of learners in geography.

CHALLENGES FOR TRAINING GEOGRAPHY TEACHERS

The training of geography teachers, in Australia and elsewhere, is a dynamic educational process. The 1980s and 1990s are producing new challenges to geographical educators - challenges which should be addressed in future teacher education courses. Some of these challenges relevant to the preparation of Australian geography teachers include:

1. maintenance of geographical education courses relevant to current school curricula;
2. expanded consideration of values education in geography;
3. increased scope for computer education;
4. increased use of classroom research to improve teaching and learning in geography; and
5. close consideration of broad issues such as environmental education, social education and communication in the school.

School curricula in Australian secondary schools are encountering a range of challenges to existing subjects. Subjects such as geography and history are under some threat from subjects such as citizenship education, legal studies, social science, computer studies, social studies and career oriented programs for students who will not complete secondary studies. Further, there is the consideration of the students' social education in a core curriculum. Naturally, geographical educators want geography to remain a viable secondary school subject. To do so, they will need to reconsider the scope of their teacher preparation programs so that geography teachers trained under such programs can link geography to current societal issues such as work, leisure and citizen education. This should enable trainee teachers to understand the utility of having geography in the curriculum, especially how the discipline contributes to students being able to carry out effective life roles.

Australian geography teachers are increasingly realising the need to attain effective objectives in their geography lessons. For example, the theme of the 1982 Australian Geography Teachers Association Conference was Geography: Action in Society. In 1984, the theme will be Geography for Relevance. This realisation has involved preparing teachers who have the competence and confidence to develop a wide variety of decision-making experiences in their geography lessons. This involves the inclusion of an increased number of strategies for values education in Australian geographical education courses.

Schools are just starting to realise the potential for using the computer in geography. The challenge is there for pre-service geographical education courses to include a component on using the computer in teaching geography. Such a component could consider the use of micro-computers in the geography classroom, especially for playing simulations, processing of fieldwork and for data-based learning experiences. No doubt, fuller development of the role of computers in geographical education needs to occur outside of pre-service courses in a range of in-service activities or in higher degree studies.

An increasing acknowledgement of the importance of the learner in geographical education is occurring in Australia. Initially, this acknowledgement was evident in the consideration of psychological aspects of the learners' development in geography. More recently, a few institutions have introduced the concept of the teacher as a researcher so that geography teachers can learn more about their students and devise more appropriate learning experiences. Such an approach needs to be addressed by all geographical educators as they strive to design relevant learning experiences for their geography classes.

Finally, there are a number of broad issues such as environmental education, social education and communication which geography teachers need to consider before they take up appointments in schools. These broad issues impinge on formal education today. Geography teachers should know something of how their studies can enhance all of these and related issues. For example, geography teachers should know and be able to implement strategies involving education of, in and for the environment. As well, they ought to know and be able to implement learning experiences in geography to enhance the students' life roles. Geography teachers ought also to know how to promote different forms of communication effectively in their classrooms to help develop a more communicable group of students. Geography teachers are then able to adapt their understanding of these broad issues to the school contexts in which they teach.

CONCLUSION

Geographical educators in Australia are very aware of international developments in their field. Numbers of them contribute actively to the international scene. Therefore, the teacher preparation programs enacted in Australia contain a range of components found in the geographical education programs of many Western nations. The strength of geographical education programs in the coming years will depend on the extent to which geography remains as a major subject in the social and environmental education of adolescents in Australia. This, in turn, depends on the promotion by geographical educators at all levels of geography as a vital and relevant subject in the secondary school curriculum.

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GEOGRAPHY TEACHER EDUCATION PROGRAMME IN NIGERIAN UNIVERSITIES AND IMPLICATIONS FOR SECONDARY SCHOOL GEOGRAPHY

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Introduction

Background of Teacher Production for Secondary Schools

Although formal education in Nigeria started in the mid-1800s, by the 1940s there had been so much expansion that there was a shortage of teachers. Ukeje (1966) reported that the problem facing Nigeria then was not just that of not having trained teachers, but a situation where untrained teachers who had not completed secondary education were teaching in secondary schools. The need for production of high level manpower in various sectors, including education, led to the opening of the first university (the University of Ibadan) in 1948. In 1956 the Institute of Education of the University was started and it offered a one-year Post Graduate Diploma in Education (PGDE) and a one-year Associateship Diploma in Education.

This source of teacher training, though it alleviated the problem of shortage of teachers, could not meet the demand for a supply of good teachers. As Nigeria moved towards her independence the great need for high quality education, which is impossible without the right quality and quantity of teachers, was realized. This idea was emphasized in Ashby's Report (Investment in Education, 1950) which stated that "no education can be stronger than its teachers." With reference to the mode of training of teachers, it was felt that the tight process of a first degree and a PGDE was needed for the few teachers who would handle the higher school classes. But, for the majority of teachers needed for the secondary classes, such a programme was unnecessary. The combined education degree was therefore recommended. It was "sold" to Nigeria by the Ashby Report of 1960 (p. 23) which said:

> "We recommend, therefore, that all Nigerian universities should institute a degree of B.A. (Education). The course for this degree shall take three years. It should consist of four subjects in the first year, three in the second and three in the third, and a course on pedagogy with teaching practice in the vacations. The subjects taken for this degree should be the ones taught at secondary school. A course on these lines would be in no way inferior to similar courses in British and American universities."

It should be noted that Ashby borrowed the idea of the B. Ed. from the Robbins Report of Britain. A Nigerian educationist (Ukeje, 1966) supporting the idea of B. Ed. argued that such a programme would lead to the production of educational engineers rather than technicians.

Although Ashby recommended four subjects for the three year degree course after the higher school certificate, the first University to begin the programme (the University of Nigeria, Nsukka) in 1960 had a two-subject and education combination. Geography was one of the subjects studied either as a major or a minor subject. It could be combined with either an art, a science or a social science subject. In 1970 this pilot university changed its policy and introduced the single-subject and education combination.

The purpose of this change was to attain a substantial depth in a subject field. The graduates of the two-subjects B.A. Education were looked upon as half-literates who had superficial knowledge only of the teaching subjects. It was argued that such students would not compare with their counterparts who had taken single honours in the subject. Other universities such as the university of Jos, which started with the two-subject combination, later changed to the single-subject for the same reason.

At present, all the 13 federal universities in Nigeria award the B.A. Education degree. The duration is three and four years respectively for entrants who possess the GCE "A" Level and "O" Level. A recent development which has taken place in the B. Ed degree is the introduction of a two-year. programme for entrants who obtained high pass levels in the Nigerian Certificate in Education (NCE). The NCE is a three-year non-degree professional programme in teacher education. This programme which started in 1961 was meant for training teachers who would teach at the lower forms of the secondary schools.

Apart from the B. Ed. and the PGDE, there is also the sandwich programme which is organized by some Institutes of Education in some Nigerian universities for the training of practising teachers. This programme was initiated in 1972 by Ahmadu Bello University, Zaria. The Institutes of Education which organize such programmes award either PGDE or B.A. (Education) or both. The PGDE has a duration of one academic session in-between two long vacations, while the B. Ed. for NCE teachers takes two sessions in-between three long vacation periods. The sandwich students are exposed to about ten weeks professional preparation in the university during each long vacation. They have full-time teaching jobs in their schools and are supervised by teacher educators from the university. Such teachers have full rights and privileges as other staff members in the school. They take courses similar, or the same as, their counterparts who are doing the regular course in the university. Geography teachers [illegible] taken part in such sandwich programmes. Hawes and Ozigi (1975) reported that 22 (11.28%) of the 195 applicants for the 1972 sandwich course at Ahmadu Bello University, Zaria were geography teachers.

Although, according to the Federal Government of Nigeria specifications (Blue Print, 1979), the minimum qualification for teaching in secondary schools should be the NCE. Information available from the teaching field (Ola, 1977; Okpalanma, 1978) shows that unqualified (non-professional) teachers still teach geography in Nigerian secondary schools. Ola (1977) carried out a research on staffing for geography teaching in secondary schools in three Western and Northern States. He found that 57.6% of the schools had a graduate and one NCE teacher. He observed that a substantial percentage of teachers who possess the GCE "O" Level, "A" Level and Grade II Teachers' Certificate also handle geography in schools. The Grade II Teachers' Certificate is a professional qualification for teaching in the primary schools.

Okpalanma (1978) in a study on the teaching conditions of geography in 21 secondary schools in Imo and Anambra States found that about 50% of the teachers had either a degree in education or an NCE. The rest of the teachers were not qualified for teaching in the secondary school.

Since Nigeria embarked on Universal Primary Education (UPE) in 1976, it envisaged a spurt in secondary school entrants in later years. It therefore started planning for an increase in the production of professional teachers for the secondary schools. Table I below shows the increasing enrollment in the Faculties of Education in Nigerian universities from 1974/75 to 1976/77 sessions. (Blue Print 1979).

Table I
Enrollment in Education Faculties
in Nigerian Universities

1974/75	27,025	4,094	15.1	2nd
1975/76	31,511	5,126	16.3	1st
1976/77	38,877	7,025	18.1	1st

The data above shows that the Federal Government had the training of high level teachers as a top priority. From 1970 it had introduced a scholarship programme for all teacher trainees in Nigerian universities and Federal Advanced Teacher Colleges (ATCs). This scholarship was extended to the state ATCs from 1976-1980. The enrollment in the ATCs which are NCE awarding institutions for 1975/76, 1976/77 and 1977/78 academic years were 6,640, 10,670 and 16,452 respectively. (Federal Republic of Nigeria, Blue Print, 1978/79 p. 37).

Although both qualified and unqualified geography teachers handle geography in Nigerian secondary schools, a substantial increase in the number of qualified geography teachers in future is imminent. This is because while the number of teacher trainees in the universities is increasing (see Table I) there is also increase in the number of of ATCs and hence NCE teachers in Nigeria. For example, in Anambra and Bauchi States of Nigeria, three advanced Teachers Colleges each have been established between 1978 and 1982. Most of the NCE teachers eventually would become graduate teachers, because, by the National Policy on Education, (1981) those who obtained distinction, credit, or merit in NCE are now given the opportunity to pursue the B. Ed. degree in two years instead of three.

From the discussions above, it could be seen that the Bachelor of Education is the standard degree for teachers of geography in Nigerian secondary schools. The graduate geography teachers, apart from teaching their classes, have some significant roles to play in geography teaching as the heads of geography sections. They perform the roles of both academic and professional consultants to the other geography teachers, particularly the unqualified ones. For example, they set the lesson notes written by the unqualified teachers and give necessary corrections. It is therefore necessary that such a lead teacher should be a master of the subject for adequate dissemination of ideas to the pupils and supervisory work. It should be noted that the graduate teachers of geography referred to above include those who studied geography either as a single-subject or a two-subject (major and minor) combination. It could be argued that the exposure of the teacher trainee to the content of geography would determine the extent to which he would be equipped for teaching the subject in schools. The course programme in geography in education therefore determines what the students learn. Although Nigerian universities are autonomous and each university plans out its programme in teacher education, such a course programme reflects not only the objectives of teacher education in Nigeria, but also the philosophy of the university and the conceptual framework of the discipline of geography.

Objectives of Teacher Education

Education in Nigeria started assuming a national outlook when it was realized from the experiences of the civil war that education could be a strong tool for inculcating national unity. The role of the teacher was realized for it was emphasized that:

> "only the teacher can lay a foundation for national development." (Federal Ministry of Education, 1969, p. 2).

It has since then been emphasized that,

> "teacher education will continue to be given major emphasis in all educational planning because no educational system can rise above the quality of the teachers." (Federal Republic of Nigeria, 1981, p. 38).

The objectives of teacher education which became the guidelines for planning of teacher education programmes in the institutions included:

> "to produce highly motivated, conscientious and efficient classroom teachers . . . ,"
>
> "to encourage a spirit of inquiry and creativity in teachers . . . ."
>
> "to provide teachers with the intellectual and professional background adequate for their assignment, and to make them adaptable to any changing situation not only in the life of the country, but also in the wider

> world. . ." (Federal Republic of Nigeria, 1981, p. 38).

The objectives of teacher education specified above together with the philosophy of each university, provide the guidelines for structuring the course programmes in education. While it is emphasized that "the objectives for the B. Ed. degree programmes are derived from the national Policy on Education . . ." (University of Jos, 1981/82, p. 1), it is also stressed that "the objectives of the structure of the School of Education Studies are similarly in line with those of the university . . ." (University of Port Harco[illegible], 1981/82, p. 4). While the Bachelor of Education degrees in all subj[illegible]s, including geography, aim at the production of academically and professionally efficient classroom teachers, the nature of the programmes adopted by different universities depends on the philosophies of those universities.

The universities which emphasize "broad-based and integrated degree programmes," for example, the University of Port Harcourt (1981/82, p. 4), offer single-subjects of the integrated type with education combination. Those that emphasize "depth and breath" in two subjects, for example, Bayerno University, Kano (1982, p. 83) and Ahmadu Bello University, maintain two-subject combination. On the other hand, those universities, for example, Jos (1981/82) and Nsukka (1978-1981), which emphasize "depth and research," have a single-subject with education combination.

Geography in Education Programmes

The geography teacher education programme in each university fits into the structure of the B. Ed. degree of the department. It also takes the pattern of the geography courses as structured by the department of geography. Such geography courses are structured according to the philosophy of the university as well as the conceptual frameworks of the geography department are explicitly stated in the objectives of the programme. For example, the University of Calabar (1981, p. 1) states the objectives of geography as:

> "to provide comprehensive training in the main branches of physical and human geography. mastery of fundamental techniques in the subject: field survey, cartography, air photo interpretation, remote sensing and quantitative methods of spatial problems is also sought."

The objective above leads to a type of geography programme that is topical. Topics in such a programme include:

Map work and Analytical Geography
Aerial Photography and Remote Sensing
People and Cultures of Nigeria
Regional Geography of Nigeria
(University of Calabar, 1981, pp. 4-10).

On the other hand, programmes which emphasize integration such as the University of Port Harcourt (1981/82, p. 15) have courses such as:

> "The City Spatial perspectives (with reference to Nigeria);
>
> Regional Geography and Integration in Africa; (and)
>
> Human Organization in space."

Although the B. Ed. geography students are expected to cover geography courses of not less than two thirds of that done by their counterparts in geography departments, the purpose of their training is often borne in mind in the selection of such courses. This purpose is to ensure effective teaching of the subject in the secondary schools. It is therefore worth highlighting some of the objectives and characteristics of secondary school geography in Nigeria.

Some of the objectives of geography teaching in Nigerian Secondary schools include:

(i) "to understand spatial relationships and the differential character of the earth surface;
(ii) to understand the concept of man-land relations (to correlate the life of man with his physical environment and to explain the interaction of human and natural agencies);
(iii) to organize and formulate concepts according to acquired principles and to apply these geographic principles to interpret and understand current world affairs;
(iv) to develop sympathetic understanding of the people of other lands based upon the recognition that they may have different ensembles of resource, different goals and different problems from the people of his own area;
(v) to gain a working knowledge of how to obtain geographic information through interpreting maps, pictures, graphic materials and research." (Okunrotifa, 1970).

These objectives stated above as well as the specification of the expectations of candidates in West African School Certificate (WASC) geography, form the basis for structuring secondary school geography curriculum. It was stated that the examination will test the candidates ability:

> "to see the relationship between physical, human and practical aspects of geography;"
>
> "to understand the use of some modern methods appropriate to the study of geography, e.g., field work, the use of models, geographical

> games and local geographical materials and audio-visual methods;"
>
> "to use source materials, of varying kinds e.g., climatic, economic and demographic statistics etc. or a paragraph of first hand descriptions" (WASC Geography Syllabus, 1982).

The expectations above were the basis for structuring the topical oriented WASC geography syllabus. Examples of the broad units within the syllabus are given below.

Map Work based on contoured map of West Africa, scales, measurement of distances, direction and bearing, map reduction and enlargement, identification of landform, gradients, drainage cross profiles, intervisibility, description and explanation of the pattern of communication, and settlement and land use.

Elements of Physical Geography

The earth as a planet, major land forms, agencies modifying major landforms.

Description and uses of basic weather instruments.
Construction of charts from simple climate data.
Major climatic types.
Interpretation of climatic data.
Distribution of vegetation types including the influence of man, soil, erosion, causes, prevention and effects.

Elements of World Human Geography

World population.
Settlement, Farming, Lumbering, Fishing, Manufacturing, Hydro-Electric power production, International transportation, Trade and Ports.

Regional Geography

Candidate's home country - Nigeria.
West Africa in broad outlines.
The rest of Africa - East Africa, Nile Basin
Equatorial & Central Africa
Africa South of the Zambesi
North Africa
(WASC Syllabus, 1982).

The abridged section of the WASC syllabus shows the content area which geography teachers trained in Nigerian universities would teach after graduation.

It is therefore necessary that while the teacher should be conversant with the methods of teaching the subject, he should have adequate knowledge of the content of geography that would give him confidence in the subject. Such adequate knowledge is necessary because no amount of enthusiasm and teaching skill can make up for inadequate content. Adequate and sufficient exposure to the content of geography would also prepare the teacher for a broad geographic perspective and for in-depth knowledge of the subject. Such in-depth knowledge would make extension in the knowledge of the subject possible later. The importance of the geography content within the geography in education programme necessitates looking into some aspects of its structure and the implications which it could have on the teaching of geography in Nigerian secondary schools.

Patterns of Geographic Education

The aspects of the patterns of Bachelor of Education programmes in geography that would be looked into include: the programme inclination, nature of geography and other prescribed courses, and subject combinations. In order to gain necessary information on these aspects of the geographic education programme, some documentary materials were collected. These were:

(i) the Joint Admission and Matriculation Board Brochure 1982/83, which specified the guidelines or admission to first degree courses in Nigerian Universities;

(ii) the universities' academic programmes which showed details of courses within each discipline; and

(iii) the course programmes on geography content for the bachelor degree in education.

The different programmes were studied and classified according to the programme inclination, nature of the courses and subject combinations.

Programme inclination refers to whether the programme of geography in education is regarded as a "pure science," a "social science" or an "art and social science" combined. The nature of geography and other prescribed courses refers to the geography courses which are common in all the geography education programmes and those which are specially offered in some programmes as a result of the programme inclination. It also includes the "ancillary courses" which are specially offered in some programmes as a result of the programme inclination. It also includes the "ancillary courses" which are compulsory courses taken outside the department of geography while the "electives" are optional courses from which students can choose the specified number of courses. The observations made are reported in Tables 2 and 6 on the following pages.

Results

With reference to programme inclination, Tables 2 and 3 on the next page show that the percentage of the Nigerian universities which offer geography in education with an inclination toward "pure" science is 46.15%; toward social science 30.77%; and toward arts and social science combined 61.54%. It could be seen in Table 2 that while some universities provided the students with the opportunity for studying geography in education provided the students either as a pure science, a social science, or an art and social science combined, some others had no options.

Table 2 Structure of Geography Education Programme in Nigerian Universities

Subject Inclination	Choice of Course Inclination	Subject Combination	Number of Universities	% of Universities
B.A. (Arts & Social Sciences) or B.SC. (Pure Science) B.Ed. (Science) or B.Ed. (Social Science)	Option	Major	3	23.08
		Minor	2	15.38
B.A. (Arts & Social Science)	No Option		1	7.69
B.Sc. (Social Science)			4	30.77
B.Sc. (Pure Science)	No Option	Major Only	1	7.69
B.Sc. (Social Science)			2	15.38

An Analysis for the thirteen universities indicating different inclinations in geography education programme is given in Table 3 below.

Table 3 Programme Inclinations in Geography Education

Inclination	Pure Science	Arts & Social Science	Social Science
Number of Universities	6	4	8
% of Universities	46.15	30.77	61.54

Table 4 **Courses Offered within the Different Programme Inclinations**

COURSES OFFERED	INCLINATIONS			
	PURE SCIENCE	SOCIAL SCIENCE		ART & SOCIAL SCIENCE
		INTEGRATED	TOPICAL	
GEOGRAPHY Common:	Physical, Agricultural, Quantitative, Climatology, Map Reading and Interpretation, Settlement, Economic, Biography, Geomophology, Population, Regional- Nigeria, West Africa, Africa, etc.			
Special:	Map Analysis Cartography Hydrology Demography Soil Science Housing Studies	The city spatial perspective Spatial aspects of development and planning Peasant society in Nigeria		
ANCILLARY	Mathematics	The social system Political economic analysis The human environment African traditional social institutions Human organization and space Political economy and underdevelopment Politics of developing areas Regional development and African integration		
ELECTIVES (Departments)	Environmental studies Chemistry Botany Zoology Physics Architecture		Economics Mathematics Geology Anthropology or any other Social Science	Social Science History Political Science French

Subject Combinations

Data collected on this issue are shown Table 5 below.

Table 5 Subject Combination in Geography Programme

Subject	Combination		No Combination
	With Options for Inclination	With no Options for Inclination	Single Subject
Number of Universities	5	5	3
% of Universities	38.46	38.46	23.08

Information available in Table 5 reveals that 76.92% of the Universities' Departments of Education in Nigeria have subject combinations (major and minor) for geography students. The subjects with which geography could be combined either as a major or minor subject are pure sciences, social sciences and arts and social sciences. Examples of the subjects are shown in Table 6 below.

Table 6 Subject Combinations with Geography

Combination	Subjects
Pure Science	Biology, Zoology, Botany, Physical Education, Chemistry, Physics, Mathematics
Social Science	Economics, Political Science
Arts	History, Language (English, Yoruba, French, Arabic), Islamic Studies

The arts and social science combination involves choosing the major or the minor subject from either the arts or the social science group of subjects.

The subject inclinations of geography in education in Nigerian universities could be said to be versatile because students are given the opportunity to study the subject as a pure science, a social science and an art and social science combined. Information in Table 4, for example, shows that a student of geography, who is studying the subject as a pure science not only takes courses in Mathematics and Statistics in such departments but also takes electives from Environmental Studies, Chemistry, Botany, Zoology, Physics and Architecture departments. The social science inclination has two orientations, namely, topical and integrated. While within the topical approach, the elective courses include: Economics, Mathematics, Geology, Anthropology, or any other social science, the integrated approach is concept-oriented. Examples of such concept-oriented courses are:

African Tradition Social Institutions
Human Organizations and Space
Politics of Developing Areas; and
Regional Development and African Integration.

The Arts and Social Science combined inclination has electives from either the arts or the social sciences.

The varieties of subject inclination open to geography teacher trainees could have some positive implications for the number and quality of WASC geography students, and later for the quality of teacher trainees. Research reported (Ndu, 1973) has revealed that some students do not choose geography in the WASC examination because it is not a science subject. Also, in the 1970s, geography in most universities in Nigeria was an art/social science. It is most likely that with the 46.15% pure science inclination found in geography programmes in the universities, more science inclined students could be spurred into opting for the subject in WASC geography. This is because the opportunity is available for studying geography now as a pure science in geography and education.

The probable increase in the number of science inclined students might lead to an improvement in West African School Certificate geography. A research report (Okpala, 1978, p.5) has shown that over 50% of the 12,576 students who sat WASC geography from 1973 to 1976 in Anambra State failed. While Eheazu (1975) found that poor performance in previous WASC geography examinations discouraged subsequent students from opting for the subject, Okpala (1978) observed that the science-inclined students performed significantly better than the nonscience-inclined in WASC geography. It could be argued that if more science-inclined students opted for the subject in the WASC examination, the results would improve. The improvement in the quality of WASC geography candidates would lead to relatively higher quality university entrants. High quality teacher trainees would probably lead to high quality teachers.

Information in Table 4 shows that the common courses taught covered the West African School Certificate Syllabus which the teacher trainee would handle after graduation. It was also observed that only one out of the 13 universities had "concept oriented" units in its programme. This is the 'Integrated' social science inclination. The other universities have units that are highly topical. Geographers have supported the adoption of the concept-oriented approach as a realistic way of programme specification in geography. It has been argued that such programme specifications emphasize spatial location, distribution, association and interaction, which are the key ideas in geographical studies. It is therefore questionable how far a pure topical approach would be sufficient in exposing the students to a versatile approach to geographical studies.

The versatile approach referred to here implies one in which there is a marrying of "partly hard" and "partly soft" systems in contents and methods. It is an approach in which topics such as Physical, Agricultural, Quantitative and other units as specified under the "common" geography courses (Table 4), and on conceptual units such as "City Spatial Perspective" and "Political Economy and Underdevelopment," could be combined in reasonable proportion.

Geographers (Harvey, 1972; King, 1976; Wolforth,1976) have criticized the positivistic approach to geographical studies because it ignored social relevance. Recent approaches to geographical studies, postulated in the 1960s and 1970s, were the behavioral, radical and the humanistic. These approaches, while criticizing the concept of economic man asserted by the scientific geographers, emphasized the individuality of human perception, historical precedents and the need for the development of the sense and love of place in decision-making about the environment. While proposals similar to these have been made by some Nigerian geographers (Adejuyigbe, 1970; Ilesanmi, 1970), it would be expected that teacher trainees who would handle geography in the secondary school in Nigeria should be exposed to these recent concepts in geography in the university. It is questionable, therefore, how far such concepts could be acquired through the pure topical approach now observable in most geographical education programmes at Nigerian universities.

The pure science inclined programmes offer "common" geography courses but have all the electives and the ancillary courses from the pure sciences. Examples of some of the courses recommended in the sciences are:

Technical Drawing,
Descriptive Geometry,
Structures of Matter, and,
Mechanics and General Properties of Matter.

Geography is a bridge between the arts and the pure sciences in its content and methods. The pure science programme inclination appears to be predominantly the hard system. It seems to lack the eclectic orientation which emphasizes objectivity as well as social relevance.

The information in Table 5 above reveals that 76.92 percent of Nigerian universities have the two-subject and education combination. While this combination could enhance the production of geography teachers in Nigeria, it could also creates some problems for geography teaching.

Within the two-subject and education combination, candidates of different subject inclinations who are also interested in the subject would be given the opportunity of training as geography teachers. This would most probably minimize the problem of shortage of qualified teachers which has been observed (Ola, 1977; Okapalanma, 1978) in Nigerian secondary schools. This statement could be justified from field observation below. It has observed (University of Ibadan, 1975 pp 426-428) that 13.33% of the 150 graduates of the session 1974/75 had geography combinations. The combinations were Economics, Government, French, and Physical Education with geography as the major subject; and History, English, Fine Arts, and Yoruba with geography as the minor subject. The universities that operate the two-subjects and education combined programme also assert that it would lead to the production of teachers who would be versatile, for they attain depth and breadth in two teaching subjects.

Despite these prospects, a close look at the principles behind the subject combination and a consideration of the nature of geography as a discipline raise some questions. These questions are: Will the combined programme lead to the production of efficient teachers? Will the observed versatility in subject combinations with geography necessarily obliterate the problem of inadequate staffing as well as improve the teaching of the subject?

In the universities where the two-subject/education combination operates while the major subject is studied throughout the three or four year programme, the subsidiary subject is limited to the first year of the three year programme and the first two years in the four year programme. The minor subject which is the subsidiary is allocated about 10% of the workload as compared to 47% in the major subject (University of Benin, 1982, p. 191). It could be seen that the coverage of geography as a subsidiary subject is limited. Therefore it cannot expose the teacher sufficiently to the full grasp of the ramifications of the subject which would enable him to justify the place of geography in the curriculum, choose adequate content for the pupils and select adequate methods and materials for teaching.

An example of the smattering coverage of geography as a subsidiary subject is made clear in the prescribed courses in one of the universities as shown below:

Compulsory Courses
The 'Local' Region
Tropical Physical Geography
Man, Culture, and Environment
Spatial Analysis
Map Interpretation and data presentation.

Optional (One out of:)

Economic Geography
Population Geography
Settlement Geography.

Optional (One out of:)

Geomorphology
Climatology
Soil and Vegetation Ecology.

The example of the coverage of geography within the subsidiary shows clearly that the teacher trainee within this programme does not cover the content area of even the school certificate syllabus which he is expected to teach in the secondary school.

The students taking geography as a subsidiary subject do not take the methodology of the subject. It is assumed that the subsidiary could be taught effectively by transferring concepts and skills acquired from the general methods and from the major subject methodology.

Geography as a discipline is based on some basic concepts which the teacher must acquire in order to teach effectively. There are therefore some psychology principles on which children's acquisition of geographical concepts are based. These include conception and perception. These should guide the teacher in deciding what to teach and how to teach it. The student who takes geography as a subsidiary course is deficient in both content and methods of the discipline. Such a teacher cannot handle the subject effectively and cannot extend his knowledge in the subject. The production of such half-baked geography teachers makes the position of the subject in the school curriculum precarious. Because, at present, most students pass from school into higher institutions and back into school as teachers, if they are inadequately equipped to teach in schools, they fall back on the facts and methods they experienced as secondary school students. Such teachers would dictate notes they copied in the secondary school to the students.

The other problem which could face geography within a two-subject combination is desertion of trained geography teachers. Some geography teachers, after being trained, switch over to the other subject completely This switch has been observed where geography is combined with either the languages or the sciences. The sciences for example are attractive to teachers because of the science teachers' allowance and the opportunity for scholarship. This allowance is not extended to geography teachers including those who offered a pure science combination, because geography in the Nigerian educational system is a social science. Geography teachers who combine the subject with the sciences eventually end up as science teachers. If therefore the purposes of subject combination include probable increase in geography teachers, as could be inferred from Ashby's Report of 1960, it is questionable whether the problem of staffing in geography can be solved in this way if some geography teachers abscond after being trained.

Conclusions

Bearing in mind the observations made above, I would make the following suggestions:

1. that geography should be studied as a single subject and education combination in Nigerian universities; and
2. that the course content for geography teachers should represent a combination of the topical and conceptual approach.

It would also be necessary for Nigerian geographers and geography educators through the Nigerian Geographical Association to define clearly the type of B.A. Education programme which would be adopted for educating geography teachers for Nigerian secondary schools.

This clarification is necessary because the present structures might result in both "hidden" and "overt" shortages of teachers. The former means the professional inadequacy of some teachers who are teaching the subject and is more dangerous than the latter, which is measured by vacancies to be filled. The hidden shortage is not easily apprehended, but is a significant contributor to inadequate provision in the subject.

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GEOGRAPHICAL TEACHER EDUCATION MODELS IN WEST BERLIN

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PART I: INTRODUCTION

Berlin, the old capital of Germany, was divided after the Second World War. Its western sectors (480 sq. km., 1.9 million inhabitants) are generally called "West Berlin" or "Berlin (West)." They are almost completely cut off from their former natural and economic hinterland. The nearest parts of the Federal Republic of Germany are about 150-200 km. away. West Berlin is not a constituent part of the Federal Republic and is not governed by it; but is attached to it by strong legal, technical, economic, social, cultural, scientific, and educational ties. So West Berlin receives about 50% of its budget from the Federal Republic as financial aid and about 40% of all the students in West Berlin institutions of higher education come from there.

Many problems of the city are caused by its special geographical location and political situation. To give a few examples: many divided families are the result of a divided city; hardly any immigration of young people from the surrounding areas has taken place since 1961, when the government of the German Democratic Republic erected the Berlin Wall. Now nearly one quarter of its population is over 65 years old. Despite many losses and destruction during the war and severe problems after it, West Berlin has made remarkable progress in many respects, e.g. between 1971 and 1981 the number of students in institutions of higher education doubled (1981: about 80,000).

Among the sciences, geography has always played an important role. As early as 1828 the "Berlin Geographical Society" was established. Alexander von Humboldt, Heinrich Barth, Ferdinand von Richthofen, Albrecht Penck, Carl Troll, and others who were active in Berlin have become internationally famous on account of their discoveries in many parts of the world and because of outstanding research and publications. Today, geography is taught in the two Universities of West Berlin, in the "Freie Universitat" (Free University) and in the "Technische Universitat" (Technical University), by over 20 professors of geography, six professors of the didactics of geography, and about 50 other members of staff. In 1981 about 2,000 students were studying geography in one or the other of these two Universities; about 40% of these had chosen geography as their main subject; of these, about four-fifths intended to teach geography at school; and about one-fifth to work as professional geographers in business, administration, or in universities. Outside the two Universities, geography is taught in some other institutions of higher education and in all schools of West Berlin. Not only the Geographical Society and the geographical departments of the Universities, but also several associations of geography professors and teachers promote geography, geographical education, and geography teacher education.

PART II: GENERAL TRENDS IN TEACHER EDUCATION IN THE SEVENTIES AND EIGHTIES

Teacher education is divided into two phases. The first phase, lasting five years or more, is primarily devoted to studies at the University. During the second phase the future teacher is based at a teacher seminar ("Schulpraksisches Seminar") (see Part IX). This survey is primarily concerned with the first phase of study (Parts II-VIII).

Teacher education usually follows upon six years of primary and seven years of secondary education at school. The majority of the students come from a "Gymnasium," an academically oriented secondary school (grades 7-13), which resembles the English "Grammar School." When the pupils leave the "Gymnasium" they are generally 19 or 20 years old. Over 20% of this age group pass a final examination at the "Gymnasium" (in the sixties less than 10% passed). In comparison with other countries they reach a fairly high standard in general education, including geography. In Berlin schools they normally have two hours of geography per week in grades 5-11. On average, students from the Federal Republic have had a bit less. In grades 12 and 13 (which consist of a course system) quite a lot of them have chosen geography as a major with 4-6 hours a week. Others have had little or no geography during these two years. It should be added that there are no social or financial barriers that might restrict access to the "Gymnasium" or a university. Tuition is free and at the University 30-40% of the students get scholarships.

Until 1982 there had been two completely separate forms of teacher education in West Berlin, one for the "Studienrat," usually a teacher in the "Gymnasium," and one for all the other teachers, normally teaching in grades 1-6 or 7-10. The organization and contents of their studies differed in many respects. Moreover, while the prospective "Studienrat" was always trained at a university, all the other teachers were trained in the "Padagogische Hochschule" (College of Education) until 1980.

In the post-war years, and increasingly in the sixties and seventies, this split system of teacher education was criticized. Among the main forces in favour of a change were: (i) political and social groups; (ii) educators; (iii) changes in the school system; (iv) international trends in teacher education; (v) the rapid growth of student numbers; (vi) new trends in science, including geography; and (vii) technical, economic, and financial development. The changes mainly tended towards an incorporation of current socio-political, educational, and scientific ideas; an assimilation of the two widely differing forms of teacher education; a permeable system of coordinated courses between related studies; a better connection of theory and practice during the studies; a strengthening of the didactics of school subjects; and more explicit and distinct regulation of studies, which had been relatively loose and lengthy in comparison with those in many other countries.

In the last few years, several laws, orders, and regulations have been enacted concerning these aims. Among the most important for teacher education are (in official abbreviations): the "Lehrerbildungsgesetz" (Teacher Education Law, 1971/1978), the "Berliner Hochschulgesetz" (Berlin University Law, 1978) which provided for the incorporation of the College of Education into the Free University and the Technical University (1980), and the "Erste Lehrer-Prufungs-Ordnung 1982" (Regulations for the First Examination of Teachers, 1982).

In the following sections the regulations that concern geography teacher education and that are effective at the present time are represented in four models and the changes from the two old models to the new ones are analyzed.

PART III: OLD "STUDIENRAT" (GRAMMAR SCHOOL TEACHER) EDUCATION (CF. MODEL 1)

The legal basis of the "Studienrat" curriculum are the regulations for the academic examinationc of the future grammar school teachers, last revised on March 25, 1980. Students whc took up their studies before the winter semester 1982/83 were admitted to the final academic examination as provided by these regulations. About half of all the geography students in West Berlin belong to this group. This old form of "Studienrat" education has been relatively constant in comparison with that of all other teacher education. It has undergone fewer changes regarding regulations, formal organization, contents, and methods in this century.

To be admitted to this examination, a student must have studied at the University for at least eight semesters (i.e. four years) with twenty hours per week. This adds up to 160 "credit hours." In practice, most students need 10-12 semesters. The student studies two school subjects. Geography may be combined with nearly all school subjects, e.g. with biology, history, mathematics, and may be the first (main) subject or second. The portion of geography among the 160 hours is fairly high, as a first subject about 80 hours (50%), and as a second subject about 60 hours. In addition, the students must take part in field work and excursions, in the first subject at least for 17 days, in the second for at least 7. The portions of all the other obligatory elements of the studies are rather small (under 15%): at least 8 hours in philosophy, at least 8 hours in educational science, and two courses at school. Each of these lasts for four weeks and is devoted mainly to observing and discussing lessons, but involves almost no actual teaching. At the end of the studies the students must pass written and oral examinations in geography, and oral examinations in philosophy and education.

There is no obligatory academic training in the didactics of geography for the prospective "Studienrat," i.e. a student may carry out his or her studies and pass the examination without having had any course about the curriculum, contents, methods, or media of geography in school. As a matter of fact, most students have had none of these and know little about school reality and teaching at the end of their university time. It should be added, however, that there is a very intensive theoretical and practical education in this sphere during the "Schulpraktisches Seminar" after the university studies (Part IX). But then it is too late for some students when they realize that while they may be good at geography, they do not qualify as teachers. As the German professional system is not nearly as permeable as the American, English, or other systems, these students will have considerable difficulties in finding a job in administration or business.

Model 1: Old "Studienrat" Education

continued studies			lifelong
seminar for school practice			1 1/2 years
first subject, e.g. geography: 80 c.h. geography 50%	second subject, e.g. biology: 60 c.h. biology 35%	8 c.h. philosophy + 8 c.h. educational science + 2 courses at school 15%	5 - 6 years
secondary education			7 years
primary education			6 years

PART IV: OLD "LEHRER" (TEACHER) EDUCATION (CF. MODEL 2)

The legal basis of this type of education are the regulations for the academic examinations of "Lehrer" students, last revised on May 7, 1979. Students who took up their studies before the winter semester 1982/83 were admitted to the final academic examination as provided by these regulations. About one quarter of all geography students may belong to this group.

In 1946 the College of Education was opened in Berlin. Here all the "Lehrer" students were trained until 1980, according to a special model of the well-known "Berliner Schule," a group of Berlin educators. The core of this model forms the "Didaktikum," one full practical semester at school, generally the fourth. During this time the students try to learn as much as possible about life in school, the profession of a teacher, and teaching geography and other subjects. They can reconsider educational theories in practice, and they can test their teaching ability. They are guided by experienced teachers, who have been selected for this task, and by university specialists in didactics (either subject or grade oriented). The students observe many lessons, prepare and teach about 16 lessons in geography, mainly in grades 7-10 and about an equal number in other subjects, mainly in the primary school. In geography they are prepared for this task in the preceding two or three semesters mainly by professors of the didactics of geography. During this time they study the different social, anthropological, pedagogical, and geographical elements of teaching, and the relationships between these fields. They analyze geography lessons and units, and try to discern the pitfalls of mechanistic teaching. In courses that follow the "Didaktikum" the newly gained experience is utilized and deepened by theoretical studies and, if possible, by more practice. So, the main characteristics and advantages of this education are the very close connection of theory and practice.

Originally these students had only one obligatory school subject, e.g. geography. But in the course of time more and more students chose two subjects because of improved chances of getting jobs in schools and better salaries. Model 2 refers to "Lehrer" studies with two subjects. These students have to study for at least eight semesters, as opposed to one subject which requires at least six semesters. In reality also, most of these students need at least one more year. Geography may be combined with most other school subjects. It may be first or second subject, with only slight differences in the training. The portion of geography within the studies is rather small, only 25 credit hours plus field work and excursions (both for geography as a first and second subject). It is supported by 9 1/2 hours in the didactics of geography and during half of the "Didaktikum" (if geography is the first subject) or by the "Schulpraktikum" (if geography is the second subject), a practical course at school similar to that in the "Didaktikum," but somewhat condensed. Geography including its didactics and teaching geography in school make up about 30% of all the studies regardless of whether it is the first or second subject.

The other studies consist of: the second subject; about 9 1/2 credit hours in primary school didactics plus half of the "Didaktikum;" at least 10 hours in one of the "Grundwissenschaften" (basic disciplines: philosophy, psychology, sociology, politics); 20 hours in educational science; and six hours in one of the "MTO" courses ("Musisch-technische Obligatoria," e.g.

Model 2: Old "Lehrer" Education*

continued studies					lifelong
seminar for school practice					1 1/2 years
first subject, e.g. geography: 25 c.h. geography + 9 1/2 c.h. didactics of goegraphy + 1/2 "Didaktikum" 30%	second subject, e.g. biology: 25 c,h. biology + 9 1/2 c.h. didactics of biology + 1 practical course at school 30%	9 1/2 c.h. didactics of primary school 1/2 "Didaktikum" 15%	10 c.h. 1 basic discipline + 20 c.h. educational science 20%	5%	5 - 6 years
secondary education primary education					7 years 6 years

*"Lehrer"= teacher (c.f. Parts II and IV)
"Didaktikum", "basic" discipline
"MTO" courses (see Part IV)

arts, music, physical education). Except for the "MTO" courses the students have to pass examinations in all disciplines. In geography this final examination comprises both written and oral parts.

PART V: SOCIO-POLITICAL, ECONOMIC, AND DEMOGRAPHIC INFLUENCES ON THE DEVELOPMENT OF GEOGRAPHY TEACHER EDUCATION

In the first 20 years after the Second World War West Berlin society, though pluralistic already at the time, had one common aim: the reconstruction of its economy. In the sixties political differences became more apparent and also involved education as a wide field of interacting and conflicting forces. Various social groups favoured extensive reforms in this sphere, e.g. the teachers' trade union, strong groups within the Social Democratic Party, and some very active members of the University. This movement influenced both geography in school and geography teacher education. At school more socio-political themes were taught. There were strong tendencies to incorporate geography into a socio-political subject (with only small portions of geography left). The concept of the "Gesamtschule" (similar to the "Comprehensive School" in England), with only one type of teacher, was developed. In consequence, the two old models were assimilated and their contents and structures considerably re-shaped (see Parts VI and VII).

The economic reconstruction and boom after the war demanded an increasing number of well trained people. A better school education was therefore necessary. Several ways could make this possible. Most of them required more teachers, especially the prolongation of the school time and the greater proportion of pupils attending the "Gesamtschule" or the "Gymnasium." School leavers were encouraged to take up education as a career. They did not only come from West Berlin, but also from the Federal Republic. This was due to the policies of the Berlin government to draw as many young people as possible to Berlin, to the special attractiveness of West Berlin for them, and to several advantages for students in West Berlin. The enormous financial help from the Federal Republic made it possible for West Berlin to improve and extend its institutions of higher education. The institutes of geography and education profited by this general economic and financial development, by improving equipment and increasing university staff.

The rapid growth of the University in the seventies and the enormous increase in teacher students was accompanied by too little attention to demographic development. Parallel to the economic boom, a baby boom had taken place up to the mid-1960s. But it was followed by a rapid decline in birth figures from the end of the sixties. The number of pupils in West Berlin primary schools decreased by about one quarter between 1970 and 1981 and it will decrease in most other schools in the eighties. On the other hand, the number of teachers in schools increased by more than 50% between 1970 and 1981. The pupil-teacher ratio is now very good (16:1). Of course, many educators would like to have it even better, but both demographic development and financial considerations stand in the way of such expectations. As teachers have civil servant status and are hired for a lifetime, the prospects for present geography students of getting a job in school are rather small. Therefore the number of probationary teachers in geography has dropped in the last few years and more and more students have had to consider replanning their career.

PART VI: INFLUENCE FROM EDUCATIONAL SCIENCES ON THE NEW CURRICULA (CF. MODELS 3 AND 4)

Many professors of educational science were among those socio-political forces which favoured decisive reforms in the sixties and seventies. Partly for political-ideological reasons, partly for pedagogical reasons, they stood against a selective and in favour of a comprehensive school system; against a split and for a unified teacher training. They heavily criticized the "Studienrat" education for training an "elite" among teachers in contradiction of the democratic principle of equality; the small portion alloted to educational and other social sciences; the weak connection of theory and school practice; the insufficient school experience during the phase of academic training; and the lack of obligatory didactic courses.

To fill all these gaps would have been possible by considerably prolonging the period of study; by much more student work; and by cutting the portions of the first and/or second subject, e.g. geography. But nearly all people responsible for the training of teachers were against a prolongation of the studies. Many of them even tried to shorten them, since most students are in their late twenties before they have finished their teacher education. Traditionally our university studies have been relatively free and have allowed the students to enjoy their early twenties. Free tuition and financial aid from parents or government have not forced them to work as hard as students in the USSR or in Japan. Cutting the portions of the first or second subject met with much resistance from the professors teaching these subjects (see Part VII), from school administrators, and from some politicians in charge of education, economy, and science.

Therefore a compromise had to be found (with gains and losses for geography: see Part VII). The influence from educational sciences became most apparent in the new "Studienrat" training. The portions of the first and second subjects were reduced by about 10% in favour of the didactics of these subjects. The portions of educational and other social sciences were increased. School practice was considerably enlarged and deepened. Instead of philosophy alone, the students could choose an option from four social sciences: philosophy, political science, psychology and sociology. The unification of teacher training was partly achieved. According to the new models all geography students with two subjects have to do at least: (a) 160 credit hours and 9 semesters; (b) 12 hours in educational science and eight in one of the four social sciences; (c) three practica (practical courses at school), among them one general orientation course; and (d) the didactics of their first and second subjects, both in theory (6-10 hours) and in practice (one practical course at school in each subject). Moreover, there are certain common items in geography (see Part VII). The remaining differences chiefly concern: (a) the one-subject-studies (not described here as only very few geography students are concerned); (b) the intensity of the first subject in the "Studienrat" studies; (c) the educational parts of the examination; and (d) the "Grundschulpadagogik" (primary school education), which is not part of the "Studienrat" studies.

Model 3: New "Studienrat" Education

continued studies			lifelong
seminar for school practice			1 1/2 years
first subject, e.g. geography: 72 c.h. geography + 8 c.h. didactics of geography + 1 practical course at school 50%	second subject, e.g. biology: 54 c.h. biology + 6 c.h. didactics of biology + 1 practical course at school 35%	8 c.h. social science + 12 c.h. educational science + 1 orientation course at school 15%	5 - 6 years
secondary education			7 years
primary education			6 years

Model 4: New "Lehrer" Education

continued studies			lifelong
seminar for school practice			1 1/2 years
first subject, e.g. geography:	second subject, e.g. biology		5 - 6 years
54 c.h. geography + 10 c.h. didactics of geography + 1 practical course at school	54 c.h. biology + 10 c.h. didactics of biology + 1 practical course at school	8 c.h. social science + 12 c.h. educational science + 12 c.h. primary school education + 1 orientation course at school	
40%	40%	20%	
secondary education			7 years
primary education			6 years

To make the studies for the prospective "Studienrat" and "Lehrer" more permeable they have been vertically divided into two phases. First, basic studies of about four semesters that are nearly equal for all students who intend to become geography teachers, followed by a semester of school practice in the two subjects, similar to the former "Didaktikum;" while in the second phase, the student has to specialize for the "Studienrat," or the "Lehrer" if he does not prefer to become a professional geographer.

PART VII: INFLUENCE FROM THE GEOGRAPHICAL SCIENCE ON THE NEW CURRICULA (CF. MODELS 3 AND 4)

The influence of the sciences, e.g. geography, on the "Studienrat" education has always been fairly great. In content and methods this education has largely followed the development of the sciences and led to a fairly high standard. It is quite natural that the professors of these subjects tried to defend this position when reforms of studies were discussed. They were fairly successful. The losses were small and the gains were great. In the "Studienrat" education, 10% of the credit hours had to be rendered to the didactics of the respective subjects, but in the "Lehrer" education the number of the credit hours of the subjects were enormously increased from 25 to 54 percent.

While educators were mainly interested in the permeability between the different teachers' studies, the geography professors were also concerned with problems of permeability between the studies of geography teachers and professional geographers. This concern became stronger when prospects for teacher employment worsened, and the situation for geographers in business, administration, and university deteriorated as well. The teachers' studies were directed more toward man land relations, environmental problems, applied geography, toward techniques and methods of geography, toward insight into geographical concepts, formulation and solution of problems, and less toward the acquisition of knowledge, and the names and facts that could be taught in school.

In the seventies, a fight took place within geographical science about general geography versus regional geography, or (as some geographers put it) new against old geography. But it did not lead to a complete splitting of geography as some geographers expected or feared. Physical, human, and regional geography remained the three main parts of the final examination for all teachers. The portions of physical and human geography were given more weight in the geography training of the "Lehrer" students, and regional geography is still one of the three pillars of geography for all teacher students. Spatial geography is incorporated into these three spheres. Within regional geography, Central Europe and local geography are obligatory parts of the studies. Berlin, its special situation and problems, belong to the core. Geographical research and education try to serve the needs of this community.

PART VIII: THE ROLE OF THE DIDACTICS OF GEOGRAPHY IN TEACHER EDUCATION, ESPECIALLY AS A LINK OF PEDAGOGICAL AND GEOGRAPHICAL ASPECTS

The didactics of school subjects, among them geography, are a relatively young discipline within the university. Formerly only methods of teaching school subjects were taught at the university level, but they occupied a humble place within the "Lehrer" studies and no place at all in the "Studienrat" studies. These problems were realized in the sixties and seventies and as a result the didactics of the school subjects were introduced and quickly developed during these two decades. In West Berlin, for example, the number of professors of the didactics of geography increased from one to six.

Beyond teaching methods the didactics of geography have to function as a link between geography, education, and other social sciences. They have to translate geography as a science into geography as a school subject; to help good students to become good teachers; to analyze geography as a school subject within the framework of social development; to develop a curriculum that corresponds in the best possible way with the interests of both pupils and society; and to foster international relations and understanding.

According to the new regulations (cf. models 3 and 4), all geography students have to study the didactics of geography (6-10 hours). Among the contents are: (a) the relations between geography as a university discipline and as a school subject; (b) basic knowledge derived from educational sciences; (c) anthropological, psychological, and socio-cultural conditions of teaching and learning; (d) aims and objectives of teaching and learning geography at school; (e) problems of the geography curriculum; (f) methods of instruction (e.g. excursions with pupils); (g) the use of media in geography lessons; (h) securing and measuring progress in learning; (i) the relations between geography and other subjects in the primary and secondary schools; (j) the history of geography in school; (k) geography in school in foreign countries and international understanding; and (l) research in the didactics of geography.

A sequence of courses that contains these topics and tries to link geography and education may look like this: (i) introductory courses into geography and education; (ii) introductory courses into the didactics of geography including observations and analyses of geography lessons at school; (iii) didactical-methodical preparation for practice at school; (iv) parallel to these didactical studies further courses in geography and education and a general orientation course at school; (v) working out lessons and units for practice at school; (vi) practice at school under the guidance of experienced teachers and professors; (vii) evaluation of this work; (viii) specialized courses in geography, its didactics, and education; and (ix) preparation for the examination. (A more detailed description of a similar model for the training of geography teachers can be found in: International Geography '76, Moscow, 1976, Vol. 10, pp. 61-64: J. Barth: "A sequence of coordinated courses in geography and education: a model for the education of personnel for school geography").

PART IX: GEOGRAPHY TEACHER EDUCATION IN THE "SCHULPRAKTISCHES SEMINAR" (SEMINAR FOR SCHOOL PRACTICE) AND THROUGH CONTINUING OF GEOGRAPHICAL ASSOCIATIONS

After the academic examination that terminates the first phase of teacher education, beginning teachers have to take part in a special training course called "Schulpraktisches Seminar," a seminar for school practice, which lasts for 18 months. At the end of this time they have to pass a second examination as provided by the "2. Lehrer-Prufungs-Ordnung" (Regulations for the Second Teacher Examination, 1981). After that they can be engaged as full-time teachers in West Berlin or in the Federal Republic of Germany.

The "Schulpraktisches Seminar" consists of practical training at school and additional theoretical courses. At the beginning there are more observations and analyses of lessons given by experienced teachers. Then more and more lessons of the beginners under the guidance of such teachers follow, at first in their presence, then more often in their absence. Thus, the beginners learn to plan and carry out lessons. In addition, there are several practical courses, e.g. for technical and audio-visual media. The theoretical courses are closely related to school practice. They mainly concern the didactics of the two subjects that have been studied at the University. The contents in the didactics of geography are similar to those described in Part VIII. But here they are deepened, continuously compared with and applied to practice. The beginner has to follow educational research at home and abroad. He must acquire fundamental knowledge of general didactics, educational psychology, sociology of education, political education, and school law. He must be able to apply these fields to school practice.

After this very long education a good teacher will try to improve his lessons. He will learn through his own experience. But society, science, and education change during his generally life-long teaching. In West Berlin there are very good opportunities to keep up with these changes. The school authorities, the geography departments of the universities, the Berlin Geographical Society, various associations of geography professors and teachers, and other institutions give substantial help by means of courses, lectures and media, and enable geography teachers to meet every new development in society, in the geographical and educational sciences, and in the modern media. Meetings, such as that of the German geographers in West Berlin in 1985, and international ties of geographical associations, professors and teachers of geography, and many organized excursions at home and abroad, help to widen horizons for the benefit of geographical education.

GEOGRAPHY TEACHER EDUCATION IN WEST GERMANY WITH SPECIAL REFERENCE TO RHEINLAND-PFALZ

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Introduction

The federal structure of West Germany transfers all political power concerning cultural affairs, including education, to the Bundeslander. Whereas in East Germany, the uniform socialist education system is centrally governed by both the Sozialistische Einheitspartei and the political government, in the Federal Republic of Germany the Ministers or Senators of Cultural Affairs/Education of the ten Bundeslander and West Berlin are the appropriate authority for all questions concerning education and training. In some Lander, school-education and university-education and, therefore, teacher-education are coordinated by different ministries or authorities.

Several committees, as, for example, the Standige Konferenz der Kultusminister der Lander der Bundesrepublik Deutschland (KMK) try to minimize the differences between the institutions, aims, and objectives of the educational system in the Lander, although at the moment it looks as if the divergences are still increasing. The educational systems of the Bundeslander differ so much in detail and are so rich in variation that the following exposition only refers to the education system of secondary school teachers of geography in Rheinland-Pfalz.

Changes In West German School Geography

West German school geography has experienced a basic change within the last 15 years (Schultze, 3, 1973). This change was introduced by Robinsohn's influential discussion on reforming the educational system. A general revision of the curriculum followed. Since the end of the'60s West German school geography has orientated itself to new aims and objectives.

The former geography[1], which was based on the controversial principle of teaching country by country (from the home-country to the wide world) changed into a modern, scientific geography based on topics of Systematic Geography (Schultze, 1970). The new geography aims at teaching how to manage a changing world which is full of problems either caused by nature or by man. The vehement discussions of the early '70s have not only calmed down, but also the first indications of a revision of the revision can be noticed. This new development does not aim to reintroduce the former country-by-country geography, but wishes to put more stress on the regional aspects in the curricula whose contents seem to be attached too closely to systematic geographical topics.

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[1] In some Lander geography as a school-subject is still called "Erdkunde"; sometimes it is combined with other subjects, e.g. "Umweltkunde" (environmental studies), "Gemeinschaftskunde" or Gesellschaftslehre" (social studies including geography), etc.

The Teacher and His Career Chances

The euphoria of the'70s gave way to a disillusion as social problems deeply interfered in the politics of education and caused consequences even for school and university subjects. The decreasing number of pupils, a result of the declining birthrate since the mid-sixties, brought about increasing teacher unemployment. Young teachers especially, who had just passed the *Zweite Staatsprufung* (final examination), and so finished their teacher education, were affected by this unemployment. But also university leavers had to face this serious situation. After having finished their university studies, they sometimes had to wait two or three years before they started the second phase of teacher education because the *Studienseminare* were occupied.

The hopeless situation in the teacher labour market and the few alternatives for teachers in other jobs has had serious consequences for the universities since the end of the '70s. Now other and/or new subjects for study are preferred and the demand for teacher education is less. While the number of students is still increasing, new orientations even in the same university subject take place, as is shown in Table 1 below, by the example of geography at Trier University during the years 1973-1982. Ten years ago three quarters of the students who began to study scientific geography wanted to become teachers. In 1982, less than 10 per cent of the beginners had the same aim. Concerning the general economic situation in West Germany, the chances of making a career on the basis of a university education in geography are rather bad, both in terms of school teaching and other jobs.

The Organization of Teacher Education

The system of teacher education in West Germany consists of two phases in general:

(1) the scientific (academic) studies at a university or pedagogical high school (*Padagogische Hochschule*) with strong emphasis on the teaching subject; and

(2) the pedagogical training at a *Studienseminar* (teacher training college), with stronger reference to questions of method and practical teaching.

Figure 1 shows that the highest school-qualification, the *Abitur* is essential in order to enable study of subjects concerning teacher education. Depending on the type of school where you want to teach, you have to study either six terms (three years) or eight terms (four years) at a *Padagogische Hochschule* or at a university. This is followed by preparation courses at a *Studienseminar*. These take 18 months in Rheinland-Pfalz.

For the second phase of teacher education in particular, there are many differences and variations depending on the *Bundesland*. For example, there are not as yet any preparation courses for teacher students at elementary schools in the Saarland, while in Nordrhein-Westfalen the preparation courses for all school types last 24 months. The inner organization of the second phase of teacher education also varies with the *Bundesland*.

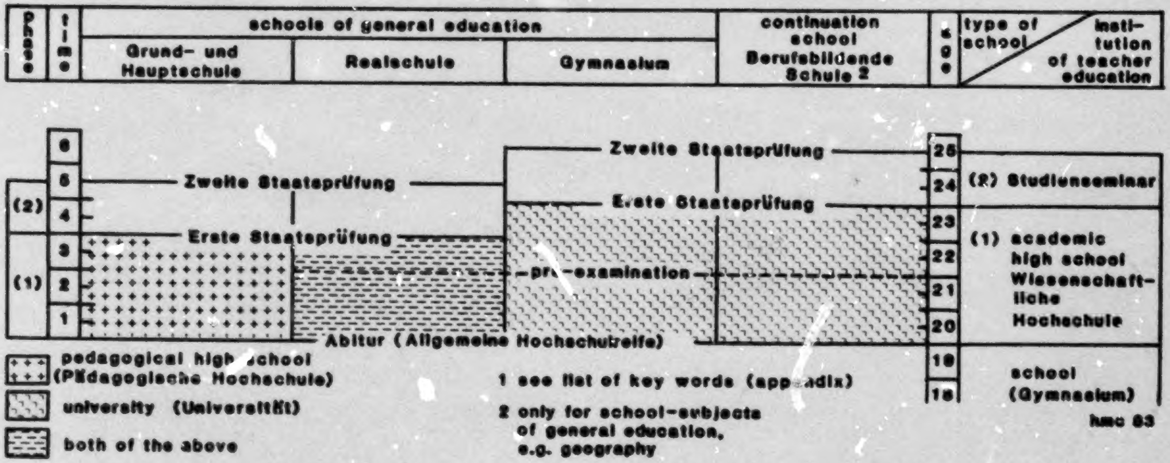
Table I: Studying geography[1] at Trier University 1973-1982 - Beginners per year, referring to the planned final examination

year[2]	Total	Planned Final Examination							
	(=100%)	Teacher[3]		M. A.		Diploma		Others[4]	
	absolute	absolute	%	absolute	%	absolute	%	absolute	%
1973[5]	85								
1974	85								
1975	65	50	76,9	5	7,7	9	13,8	1	1,5
1976	71	47	66,2	6	8,5	17	23,9[6]	1	1,4
1977	98	77	78,6	8	8,2	12	12,2	1	1,0
1978[7]	71	42	59,2	5	7,0	23	32,4	1	1,4
1979	85	39	45,9	4	4,7	40	47,1	2	2,4
1980[8]	139	34	24,5	5	3,6	98	70,5	2	1,4
1981	193	37	19,2	10	5,2	143	74,1	3	1,6
1982	272	26	9,6	34	12,5	211	77,6	1	0,4

Source: Studentensekretariat der Universitat Trier

1 geography as first, second, or third subject; diploma: geography generally as main subject
2 beginners of summer - and winter-term together
3 Realschule and Gymnasium
4 e.g. doctor's degree, final examinations abroad, etc.
5 only winter-term 1973/74 (starting point for student-statistics at Trier University)
6 probably geography as minor subject, see 7 and 8
7 introduction of Applied Geography/Geography of Tourism as diploma-subject
8 introduction of Applied Physical Geography as diploma-subject in winter-term 1980/81

Figure 1 The organization of teacher education in West Germany (generalized scheme) [1]


phase
time
schools of general education
Grund- und Hauptschule
Realschule
Gymnasium
continuation school Berufsbildende Schule 2
age
type of school
institution of teacher education
6
5
4
3
2
1
(2)
(1)
Zweite Staatsprüfung
Erste Staatsprüfung
Zweite Staatsprüfung
Erste Staatsprüfung
pre-examination
Abitur (Allgemeine Hochschulreife)
25
24
23
22
21
20
19
18
(2) Studienseminar
(1) academic high school Wissenschaftliche Hochschule
school (Gymnasium)
pedagogical high school (Pädagogische Hochschule)
university (Universität)
both of the above
hmc 83

1 see list of key words (appendix)

2 only for school-subjects of general education, e.g. geography

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Academic Studies and Preparation Courses in Geography in Rheinland-Pfalz

Up to 1982, to become a geography teacher through a university course, you had to choose two academic subjects which were school-subjects as well, including some more or less theoretical studies in pedagogics. Now you have to study three subjects, plus a supplementary study of pedagogics. Two of the three subjects demand a study of six terms (three years) and eight terms (four years) respectively. Table 2 shows how geography can be differently combined with other subjects. If geography is chosen as a first or second subject, it must be studied for a minimum of six and eight terms respectively (combination A); as a third subject, for only four terms (combination B). There is one exception. If geography is combined with history and social studies all the three subjects must be studied as main subjects (combination C).

Combinations of favoured subjects with geography are social studies, history, and languages (Closs, Sperling, 1977). The demand for combinations with natural sciences, except for biology, is small.

The academic study of geography in Rheinland-Pfalz is possible for teachers:

- at Realschule, Gymnasium, Berufsbildende Schule at the universities in Trier and Mainz; and
- at Grund-und Hauptschule, Realschule at the High School of Educational Studies in Koblenz/Landau.

Practical teacher training (second phase of teacher education) in Rheinland-Pfalz is possible for teachers:

- at Realschule at the Studienseminars in Kaiserslautern, Koblenz, Mainz and Trier; and
- at Gymnasium at the Studienseminare in Bad Kreuznach, Kaiserslautern, Koblenz (with an annex in Neuwied), Main, Speyer (with an annex in Ludwigshafen), and Trier.

The Organization of Studying Geography in the First Phase of Teacher Education

The academic studies of geography for those aiming to become teachers is here demonstrated by the example of Trier University. Table 3 gives information about the aims and objectives of the studies, and Table 4 gives information about the university leaving examination (Erste Staatsprufung). Both reflect today's (1983) study and examination regulations for teacher students of Realschule as well as Gymnasium. It must be pointed out that the old regulation of 1974/75/76 (two subjects combination) is still in use for beginners before the winter-term 1982/83 (see left side of the figures). The new regulation (three subjects combination) is added (see right side of the figures).

The study procedure at university is divided into two parts. The basic studies of the first four terms (two years) impart the basic knowledge of scientific geography as well as the methods and the techniques of the subject. Pre-seminars (Proseminare), exercises (Ubungen), and excursions as well as

Table 2: Studying geography in Rheinland-Pfalz - combinations with other subjects (generalized scheme referring to the new examination regulations 1982)

Combination	Full Studies (6/8 terms)	Only Basic Studies (4 terms)
(A)*	1st subject geography + 2nd subject or: 1st subject + 2nd subject geography	+ 3rd subject + 3rd subject
(B)*	1st subject + 2nd subject	+ 3rd subject geography
(C)	1st + 2nd + 3rd subject geography + history + social studies	--------

* only possible if geography is not combined with history and social studies

Sources: Landesverordnung uber die Erste Staatsprufung fur das Lehramt an Realschulen nom 31.3.1982, 133-134 Landesverordnung uber die Erste Staatsprufung fur das Lehramt and Gymnasien vom 7.5.1982, 157-158

Table 3: Generalized scheme of aims and objectives in studying geography referring to teacher education (by the example of Trier University)

		Beginners before winter-term	Beginners from winter-term 1982/83	
BASIC STUDIES 1st-4th term	Gymnasium/Realschule	6 pre-seminars/exercises in - geomorphology including field-studies - climatology or biogeography - human geography - geology - map reading - didactics of geography 5 one-day excursions 1 excursion of several days	4 pre-seminars and 4 exercises out of - general problems of geography - geomorphology including basic knowledge in geology - climatology or biogeography - social geography and geography of population, geography of settlements - economic geography - geographical media and methods of representation, esp. map reading and special cartography, aerial and satellite photographs	1 exercise in didactics of geography-Realschule 4/Gymnasium 6 one-day excursions-1 excursion of several days in Germany-1 excursion of Realschule 8/Gymnasium 10 days (usually abroad)
ADVANCED STUDIES 5th-6th/8th term	Realsch.	1 seminar 1 exercise in map-interpretation 1 exercise in didactics of geography 1 excursion of 10 days (usually abroad)	1 seminar 1 geographical field-course or 1 exercise in map-interpretation	
	Gymnasium	2 seminars 1 exercise in map-interpretation 1 exercise in didactics of geography 1 exercise in special cartography or interpretation of aerial photographs 1 geographical field-course 1 excursion of 10-days (usually abroad)	2 seminars 1 geographical field-course 1 seminar in map-or aerial photographs interpretation	

1 see list of key words 2 only if geography is the first subject

Sources: Studienplan fur das Studium fur Lehramtskandidaten der Sekundarstufe I (Lehramt and Realschulen und Lehramt fur den Sekundarbereich I) und der Sekundarstufde II (Lehramt an Gymnasien) im Fach Geographie an der Universitat Trier vom 12.5.1975 Ordnung der Zwischenprufung im Fach Geographie fur Studierende der Geographie mit dem Studienziel "Lehramt an Schulen" bzw. "Akademische Abschlussprufung (Magisterprufung)" der Universitat Trier vom 12.61975 Ordning der Wissenschaftlichen Prufung fur das Lehramt an Gymnasien in Rheinland-Pfalz vom 14.6.1974 mit Andetungen der Prufungsordnu;ng vom 18.3.1977 Ordunung der Wissenschaftlichen Prufung fur das Lehramt an Realschulen vom 1.3.1976; Landesverordnung uber die Erste Staatsprufung fur das Lehramt an Realschulen vom 31.3.1982; Landesverordnung uber die Erste Staatsprufung fur das Lehramt and Gymnasien vom 7.5.1982

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Table 4: Generalized scheme of the aims and objectives concerning the examination regulations and referring to the geography teacher education at universities in Rheinland-Pfalz*

Beginners before winter-term 1982/83	
Realschule	Gymnasium
Knowledge of the basic aids (bibliographies, literature, maps, aerial photographs, statistics) and the most important geographical methods and the ability to apply them critically	Knowledge of the basic methods of Systematic and Regional Geography and the ability to examine them critically with regard to their apply. Ability to apply these methods and to represent the results.
General information and basic knowledge of the main fields of Systematic Geography.	
Thorough knowledge of one chosen field of Systmeatic Geography.	Thorough knowledge of one chosen field of Human and Physical Geography each.
Basic knowledge of the most important natural, cultural and economic areas on earth.	General information of the most important natural and cultural areas on earth.
Thorough knowledge of Germany, of one greater European region and of one greater area overseas.	
Understanding of the geographical aspects of coherence and development within social and economic affairs.	
Insight into the work of regional planning under consideration of environmental problems.	
Didactics of Geography esp. curriculum-development, teaching strategies and media, under consideration of the practical courses at school.	

Beginners from winter-term 1982/83	
Realschule	Gymnasium
To be well up in the techniques and methods which are necessary to solve the questionings of Human and Physical Geography. To be familiar with geographical media and methods of representation. General information of the main fields of Systematic Geography	
with the basic knowledge to comprehend and to explain the geographical structures and processes.	
Thorough knowledge of one chosen field of	Thorough knowledge of two chosen fields of
Human and Physical Geography each.	
Basic knowledge of planetary-zonal and geotectonical-geomorphological structure of the earth. Basic knowledge of the most important cultural, economic and political areas on earth. Knowledge of the necessary topography.	
Thorough knowledge of Germany; and its geographical position in Central Europe, of one greater European region and of one greater area overseas. The structural problems of the developed and developing countries have to be taken into consideration by way of example.	
	Ability to understand landscapes as ecological systems and to judge their capacity by the knowledge of geographical conditions Ability to comprehend and explain geographical structures as expressions of social and economic processes.
Ability to comprehend different life-patterns as well as different social and economic systems and to explain the coherences with natural and historical area structures.	
Basic insight into the work of regional planning and environment protection as important fields of Applied Geography.	
Knowledge of the ideas and questionings of the Didactics of Geography, esp. curriculum-development; knowledge of basic elements of teaching geography under consideration of the practical courses at school.	

*See list of key words

Sources: Ordnung der Wissenschaftlichen Prufung fur das Lehramt and Gymnasien in Rheinland-Pfalz vom 14.6.1974 mit Anderungen der Prufungsordnung vom 18.3.197-Ordnung der Wissenschaftlichen Prufungen fur das Lehramt an Realschulen vom 1.3.1976-Landesverordnung uber die Erste Staatsprufung fur das Lehramt an Realschulen vom 31.3.1982-Landesverordnung uber die Erste Staatsprufung fur das lehramt an Gymnasien vom 7.5.1982

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lectures (Vorlesungen) have to be attended successfully during this period. Exercises teach the student skills, pre-seminars offer basic knowledge, lectures explain complex relations and excursions bring the illustration of essential knowledge.

After the fourth term these fundamental studies end with a pre-examination (Zwischenprufung). This is to find out whether the aims of the basic studies (Grundstudium) have been achieved and to prognosticate success in further studies. At the end of each pre-examination there is the obligation to provide information about the aims and objectives of the advanced studies.

Advanced studies (Hauptstudium) take at least two terms (one year) for those who wish to become Realschule teachers and four terms (two years) for those who want to teach at a Gymnasium. During this period of time the student must be able to recognize and examine the complexities of areal interdependence within their natural, economic, social and political relations, and with reference to historical and actual problems. Seminars (Haupt-/Ober-Seminare) and lectures deepen and enlarge geographical knowledge. First attempts at applying this knowledge are started in special courses (Laborpraktikum), including, fieldwork (Gelandepraktikum). Other attempts are made by the student's own research (Forschungspraktikum).

Practical courses at schools, based on orders by the government, are integrated into the academic phase of teacher education. To become a teacher at a Realschule or Gymnasium you have to pass two practical courses:

1) two weeks as an auditor; and
2) four weeks as a candidate under the instruction of a senior master.

As the regulations do not say anything about the cooperation between school and university, these practical courses are of doubtful use (compare with the section "The Didactics of Geography within the First Phase of Teacher Education").

The final examination of the academic studies (Erste Staatsprufung) consists of three parts:

1) If geography is the first subject chosen at university, an examination paper of about 100-200 pages has to be written. It is to show that the student is now able to work scientifically, to give his own opinion about a geographical problem and to treat it properly. This paper must be written within three months, which in general is too short for geographical studies and research. So usually the student starts, in agreement with his professor, some months earlier.

2) During five hours in an examination room, a paper dealing with either the interpretation of geographical maps or aerial photographs or an essay about a geographical problem must be written. Both examinee and examiner prefer the interpretation of maps because this skill is exercised during advanced studies.

3) The oral examination takes 60 minutes for those who wish to become Realschule teachers and 74 minutes for those who want to teach at a Gymnasium; 15 and 10 minutes respectively of the testing time is given to the

didactics of geography. Figure 4 shows the aims and objectives of the old (and still applied) examination regulations in geography in comparison with the new ones. It also shows the differences between the educational standards of the teacher of *Realschule* and *Gymnasium*.

With this university leaving examination (*Erste Staatsprufung*), the first phase of teacher education is finished.

The Didactics of Geography within the First Phase of Teacher Education

In the Federal Republic of Germany there are only a few universities which offer the possibility to study not only the academic geography itself, but also its didactics. The institutes or departments of didactics are mostly distinct and separated from the technical science. The study and examination regulations seem to be the only combining element. The situation at the pedagogical high schools is different.

At Trier University, where the didactics of geography are integrated as one part of the academic subject, the didactics of geography are not applied to teacher education alone. Other activities of similar importance are the administration and documentation of geography as a whole and the attempt to demonstrate its position to the public: the didactics of geographical study, the development of the aims and objectives of geography itself; the didactics of other subjects and the educational discussion in general; the clarification of the terminology as well as the system of geographical ideas; and the making of academic geography applicable to teaching geography at school are all important areas of study and research.

Besides the didactics of school-geography there are many other kinds of didactics of geography, e.g. didactics of media, planning, environmental education, travelling, and cartographical didactics. In the Department of Geography at Trier University the didactics of the museum, especially in its relation to school, play an important part (Sperling, Closs, Gaffga, Schiff, 1981). Other central points of interest and geographical research are the psychological conditions of the perception of geographical areas, topographical knowledge, the history of teaching geography, school-geography in the GDR and abroad, curriculum and textbook analysis, and research.

The studying of the didactics of geography at Trier University is one part of academic geography within the first phase of geography teacher education. These studies are to give information about the different aspects and methods of balancing and evaluating the academic subject for the prospective teacher. They aim to offer knowledge about the important geographical media and the theoretical basis of teaching geography at school (compare Hausmann, 1972; Zifreund, 1972; Bauer, 1974; Bauer,Hausmann, 1976). During the geographical studies various lectures, exercises and seminars are offered to the students to increase their knowledge and qualifications in this field. The didactics of geography are parts of both the pre- and the final examinations of the first phase of teacher education in geography (Bohn, 1981).

The contents of the lectures, etc., include the development of the geographical curriculum, the position of geographical media, the analysis and comparison of geographical media, and the analysis and comparison of geographical textbooks and school-atlases. There are also special lectures on particular problems, e.g. geography in the upper school or geography as a part of political education. A significant point of interest is given to the Unterrichtspraktische Studien (studies in practical teaching). This exercise, although not obligatory, tries to establish relations between academic geography, educational studies, practical courses at school (1st phase), preparation courses in teaching (2nd phase) and school geography itself (Schonbach, 1974 and 1981).

Although educational studies, with their main interests on "Theory of Education," "General Didactics," "Institutional Conditions of Pedagogics," "Pedagogical Psychology" and "Socialization at Home and at School" try to introduce different aspects of teaching at school, they are usually too theoretical and without relation to the didactics of a school subject. Even the Schulpraktika (practical courses at school) within the first phase of teacher education are not usually influenced by the didactics of geography. Their success mostly depends on the interest and willingness of the candidate, on the school-management, and on the senior master who leads the student.

The studies in practical teaching ("Unterrichtspraktische Studien"), attempt to help the student and give him more practical advice. Their principal aim is to make the intending teacher more sensitive to the particular problems of teaching geography. The initial step toward this aim is to present the reality of geography teaching at school and to analyze selected geography lessons. Discussion with both teachers and pupils help to make teaching geography more clear and evident. Further aims are to analyze the effect of media, to balance the objectives, to evaluate interactions, etc. The students have to attend geography lessons (teachers volunteer for this purpose). Lessons on video also help to discover and analyze the procedures of teaching geography (Jager, 1978).

As there are no regulations concerning the cooperation between university and school in Rheinland-Pfalz there is (at present) no possibility for the students in the first phase to teach on their own, apart from the non-guided Schulpraktika which are of dubious value. So the student has no chance to learn how to interpret the curriculum for practical purposes, to find out the right aims for particular geography lessons, to apply academic geography for school purposes, or the opportunity to plan lessons, to carry them out and to evaluate his own attempt at teaching geography. That is the reason why there appears to be a break between the first and the second phase of geography teacher education.

The Second Phase of Geography Teacher Education-The Preparation Courses

The separate routes of teacher education at the university (depending upon the types of school where the student wants to teach) are continued in the second phase at the Studienseminare (teacher training colleges) which are responsible for practical and pedagogical education. The candidate receives the pedagogical and theoretical education in Seminars (lectures), and the practical education at a school to which he is sent. The seminars are divided into general lectures and lectures referring to a subject. The general ones give information about pedagogical, psychological, sociological, legal and school-organizational problems. Those referring to a subject try to deepen its methodics and didactics and to establish a relationship to practical teaching.

While general problems of the second phase of geography teacher education are discussed (Kurth, 1970; Muller, Papa, Schrader, 1978; Schrader, 1978; Bothschafter, Kistler, 1979; Hendinger, 1981), the details of the preparation courses are quite unknown. Literature about these courses only gives models, recommendations and makes suggestions, but almost nothing about the reality of every-day problems is mentioned. There is not even a required curriculum referring to the contents of geography teacher education. Only formal and organizational elements are regularized by law.

The lecturers (*Fachleiter*) attempt to make their own curricula, and educational plans must be treated with respect. But the disadvantage is that they differ greatly from *Studienseminar* to *Studienseminar*. Although the curricula and plans are therefore not easily compared, they have some basic patterns: e.g., the position of geography as a school subject among the other subjects; geographical aims and objectives relating to the *Land's* special curricula; textbooks and atlases; media and teaching aids; geographical literature and journals; planning of geography lessons; and particular problems such as homework, basic knowledge of topography, the use of the blackboard, classroom control and tests of skills, etc. (Hausmann, 1972 and 1974).

In order to acquire practical teaching skills the candidate has to attend the classes of method instruction and to teach on his own. The number of lessons per week or during the time of the second phase the candidate has to teach and the evaluation of these lessons, in regard to the final examination, differ from *Land* to *Land*. In Rheinland-Pfalz the preparation courses last 18 months and are divided into two parts:

1) During the first part of the preparation courses which takes six months and twelve months (*Realschule* and *Gymnasium* respectively) the student teacher receives theoretical advice in the general seminars and the seminars linked with a subject. He attends classes under the instruction of a senior master in order to see how to teach geography.

2) During the following twelve months and six months (*Realschule* and *Gymnasium* respectively) the candidate teaches on his own in order to develop self-confidence in practical teaching. Besides he gets to know other aspects of every-day school problems, such as being head of a class, attending teachers' conferences, or reporting about a pupil's competence.

The candidate's lessons are observed and evaluated by his mentor in the school, the lecturer (*Fachleiter*) of the *Studienseminar*, and by other teacher students. During the first part (a) one lesson of each subject takes the form of an examination but there is no mark at the end. During the second part (b) one lesson of each subject is evaluated and is important in providing access to the final examination, and is sometimes being already a part of it.

The final examination of the second phase of geography teacher education (Zweite Staatsprufung), which permits the candidate to teach on his own, consists of three parts:

1) First the candidate has to write a pedagogical essay (at home) (Padagogische Hausarbeit) which should refer to his second phase of teacher education, especially to his own practical teaching. Most of these essays reflect the planning, carrying out, success and evaluation of his own lessons. Pedagogical essays in geography deal with problems of Systematic or Regional Geography which are relevant for school (e.g., desertification or North America). They also deal with particular skills (e.g., how to use maps and atlases), or they are about subjects of educational relevance (e.g. games in geography).

2) The practical part of the final examination consists of one teaching test in each of the candidate's subjects. The lessons themselves as well as the candidate's contribution to the following discussion about his lessons are assessed in one mark.

3) The oral part of the final examination gives the impression of the candidate's knowledge about:

    (a) pedagogics, general didactics, pedagogical psychology, social aspects of education, school law, official law; all these themes form the subject-matter of the general seminars; and

    (b) the didactics and methodology of the subjects of instruction and their relation to practical teaching.

The results of the three parts of the final examination plus the results of the efforts during the second phase of teacher education provide the total mark of the whole examination.

While the regulations of the academic examination (first phase of teacher education) are set out in detail, subject by subject, the detailed and subject-dependent aims and objectives are as unknown as the content during the 18 month instruction period of the second phase of teacher education. Often the examiners work out a catalogue of relevant examination questions on their own, but the situation in general is unsatisfactory.

Geography Teacher Education-Tradition Without Progress?

The education of geography teachers in the Federal Republic of Germany, here demonstrated by the Bundesland Rheinland-Pflaz, has not yet passed beyond its traditional form. There is still a break between the first phase, based on sciences, and the second phase, with its pedagogical demands. Attempts at integration, formally initiated by practical courses at the university, have not yet been able to break the barriers between the two separate phases of teacher education. Models, e.g., the one-phase teacher education-model of Oldenburg University (Stonjek, 1974), are not very successful and are considered to be dubious, especially by those who are afraid of changes.

To all those who are involved in geography teacher education it seems to be strange that the aims and objectives of the new school geography, particularly aspects of Social Geography, derive from the geographical research centres at the university, yet are almost absent in the geographical education at the university. The didactics of geography, established as a part of the academic subject, attempt to make scientific geography practicable for school, but the seminars and lectures at the universities are still mostly traditional. Nevertheless, some progressive approaches are to be found in discussing the problems of developing countries, in comparing political systems and in dealing with the questions of environment and ecology, for example.

Some of those aspects are present in the new examination regulations, although during the first phase of geography teacher education the aims are often not correlated with the objectives. As there is no discussion about the geographical objectives in the second phase of teacher education, there is still a break between teaching geography at the university and teaching geography at school which, in some respects, is much more modern. While modern geography has already become popular in all types of schools, we do not know much about the transfer of modern geography or pedagogies to teachers.

Appendix

List of Key Words

Standige Konferenz der Kultusminister der Lander der Bundesrepublik Deutschland (KMK)	Standing Committee of the Ministers of Education of the Lander of the Federal Republic of Germany
Grundschule	Elementary school; junior school for the first four years
Hauptschule	The upper classes of an elementary school (5th-10th form)
Realschule	Non-classical secondary school, central school (5th-10th form)
Gymnasium	High-class secondary school, grammar school (5th-13th form)
Berufsbildende Schule	Continuation school preparing for a job
Hochschule	University or university-like institution (e.g. Padagogische Hochschule); teacher education in scientific (academic) subjects (1st phase of teacher education) for students who want to become teachers; at a Realschule or at a Gymnasium, in some cases also at a Berufsbildende Schule
Padagogische Hochschule (PH)	University-like institution; teacher education in scientific (academic) subjects (1st phase of teacher education), but with more reference to the pedagogics-for students who want to become a Teacher at a Grundund Hauptschule; in some PHs it is also possible to study for teaching at a Realschule.
Studienseminar	Teacher training college where the second phase of the more pedagogical and practical teacher education takes place

Grundstudium	Basic studies in the first four terms (two years) of studying an academic subject at a university or at a Padagogische Hochschule
Hauptstudium	Advanced studies in the following two (Realschule) or four (Gymnasium) terms of studying an academic subject
Semester	Term (in Germany there are only two terms per year: summer-term mid of April - mid of July, winter-term mid of October - mid of February)
Zwischenprufung	Pre-examination at the end of the Grundstudium (1st phase of teacher education)
Schulpraktikum	Practical course at school in the 1st phase of teacher education; two parts: two weeks as an auditor, four weeks teaching as a candidate under the instruction of a senior master
Unterrichtspraktische	Studies in practical teaching: an Studien exercise within the studies of didactics of geography
Erziehungswissenschaftliches Begleitstudium	Educational studies as supplementary studies to the other subjects in the 1st phase of teacher education
Abitur (Allgemeine Hochschulreife)	Final examination of the Gymnasium (G.C.E. "A" - level): highest and only school qualification for studying at universities
Studienplan, -ordnung	Catalogue of obligatory lectures, exercises etc. at universities, depending on the subject(s)
Prufungsordnung (a) Erste Staatsprufung (b) Zweite	Examination regulation final examination of the (a) 1st, (b) 2nd phase of teacher education organized by government's regulations; other names/expressions: (a) Erstes Staatsexamen, Wissenschaftliche Prufung (academic examination); (b) Zweites Staatsexamen, Padagog-

	ische Prufung (pedagogical examination)
(a) Wissenschaftliche Hausarbeit (b) Padagogische	Written homework as a part of the final examination(s): (a) academic homework, (b) pedagogical homework
Vorbereitungsdienst	Preparation courses = other word for the second phase of teacher education
Lehrprobe	Teaching demonstration/teaching test as a part of the practical teacher education and/or the final examination of the 2nd phase of teacher education
Sozialistische Einheitspartei Deutschlands (SED)	Communistic party in the GDR (East Germany)

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TEACHER EDUCATION IN GEOGRAPHY IN THE UNITED STATES

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American citizens are characterized as illiterate in geography (Association of American Geographers, 1982b). Geography content in the elementary schools is not as visible as it might be, and the subject is relatively unpopular as an elective in the secondary schools (Manson, 1980). Geography, as it was taught in secondary schools in the 1950s was not representative of professional geographers' concerns (Vuicich and Stoltman, 1974), and it has not changed much since then. Many of those who teach pre-collegiate geography seem ill-prepared to do so (Fernald, 1970). Public attitudes toward the discipline reveal negativism as geography is perceived as irrelevant or poorly defined (Elson, 1982). University departments are concerned about low enrollments and terminations of faculty and programs (Libbee and Wilbanks, 1982).

This is a dreary introduction, but a realistic context to examine issues that affect the preparation of geography teachers in the U.S.A. There are signs of positive change. Further, there are several routes to introduce creative and appropriate responses to the problems.

As a part of a larger effort to seek these responses, the following recommendations should be considered:

1. American geographers must give more widespread attention to the well-being of geography as a school subject and to the preparedness of teachers who implement learning;
2. American geographers must take official positions on geography curriculum in elementary and secondary schools, and on the preparation of teachers who offer the subject either as a separate course or as a part of a cross-disciplinary social studies program; and
3. American geographers must more effectively articulate messages about the value of the discipline in terms of student and societal needs, and the advantages of diversity and flexibility in the discipline to help schools meet these needs.

These recommendations are not new, but are, perhaps, treated in a fresh context that interrelates the multiple issues American geographers face, suggests the time is right, opportunities abound, and it is in the interest of the entire community of geographers in the United States to work immediately and actively to promote constructive change.

The recommendations will be discussed in detail, but they can be clarified with a prior look at diverse influences that affect pre-collegiate geography education in the United States.

Influences that Affect the Preparation of the Geography Teachers: Geography and the Social Studies

The preparation of elementary and secondary geography teachers must be considered in tandem with curriculum in American public schools. In spite of continued objections from scholars over the years, pre-collegiate geography is regarded as a social study and treated as a component in the social studies curriculum. This curriculum centers on the needs of children and society, with a strong commitment to fostering responsible citizenship. Knowledge from the social science disciplines, as well as other areas of the curriculum, is drawn upon selectively to meet this mission (Nation Council for the Social Studies, 1979). Approaches to learning incorporate social issues on a local to global scale, skills development, values considerations, reflective inquiry, problem-solving strategies, and students' developmental needs and interests. Also encouraged is their active participation in the learning process and learning strategies that will foster students' participatory competencies.

As a social study in the 1930s and 1940s, geography focused on human relations with the natural environment with considerable carry-over of the environmental determinism that dominated the field in the early 1900s (Kennamer, 1970). By the 1950s, geography's contribution to the social studies in secondary schools was usually through a descriptive, world regional approach. This orientation grew from Americans' awakened interest in other parts of the world, largely as a consequence of two world wars (James, 1971).

In the 1960s and 1970s, social studies shifted toward more discpline centered curriculum and several curriculum projects emerged to implement the shift. Among these was the High School Geography Project (HSGP) of the Association of American Geographers (1970). *Geography in an Urban Age*, the project's later title, was marketed commercially, but did not interrupt the world regional approach in a serious way. In a study conducted in 1977, less than five percent of the school districts sampled reported use of the project, a figure that declined from previous years (Weiss, 1978, p. B-25). Currently, the thrust of most secondary textbooks continues to reflect the world regional orientation (Manson, 1980).

While the HSGP was held in high regard by many geographers, the failure of the project in schools arose from sundry negative reactions. Opinions reflected broadly that classroom teachers, especially, perceived problems. Teachers, as important decision-makers, are the determiners of success or failure in geographic education as the individuals who bring curriculum to American school children.

It appears that secondary and elementary school geography lacks credibility among the general public, school personnel, and even professional geographers. It was estimated that less than twenty percent of American students elect a geography course before graduating from high school (Manson, 1980). In middle schools, geography may be a minor part of a multidisciplinary social studies program; in elementary schools, the discipline is part of interdisciplinary social studies. Geography of past years was characterized as "badly out-of-date" and "culturally biased" (National Council for the Social Studies, 1979, p. 268). Some recall "horrible teaching" and "minutiae" (Kenworthy, 1981, p. 28), or preparation for quiz shows and irrelevance for minority populations (Donaldson and Davis, 1972).

Admist this type of criticism and during a long period of dissatisfaction with and fluctuating interest in geography, teachers completed courses of study to prepare for jobs. Staffing needs in local school districts demanded people who could teach multiple subjects--history, geography, urban studies, social problems, etc., and teachers who would find employment were encouraged to prepare accordingly. Since 1975, public school enrollments in general have declined and teacher reductions in many school systems have increased the value of social studies teacher who could teach several different subjects. Thus, while more geography course work in their preparation might have helped teachers to gain competence in geography, narrow preparation impeded prospects to find positions in a declining job market.

With fewer teaching positions available, enrollment in geography teacher education programs declined in universities, as did the numbers of geographers with related research and teaching interests. Many university programs that historically focused on teacher training shifted their major emphasis to preparation of students for careers in government or business.

Meanwhile, geography professors at American universities complained about students' lack of preparedness in the discipline (Ring, 1979), and public school teachers, teacher certifying agencies, social studies curriculum planners and others were usually held responsible. In the process, very little significant activity evolved to break this destructive pattern, and the rift between professional geography in the public schools continued to grow.

Teacher Certification in the U.S.

Additional factors affecting the preparation of geography teachers include licensing and accrediting practices. There is no single system for the preparation or certification of teachers in the United States. In general, certification is the prerogative of individual states (and sometimes cities), and is usually directed by elected or appointed citizens (Christensen, 1980). Teachers are certified after completion of a State-approved program offered by universities, which in themselves have requirements that differ from institution to institution.

While the states approve programs for certification, non-governmental organizations accredit universities and programs that prepare teachers. Regional associations prescribe procedures and criteria for institutional evaluations, and specialized program accreditation is available to regionally-accredited universities through the National Council for Accreditation of Teacher Education (NCATE). A coalition of organizations interested in teacher education governs NCATE and sets the standards for program accreditation. A teacher's certification, employment, and even promotion often depend on completion of a university program accredited by a regional association and by NCATE (Christensen, 1980).

Standards established by NCATE are influenced by professional associations and learned societies whose guidelines are recognized formally (National Council for Accreditation of Teacher Education, 1982). Presently, there are no guidelines for preparation of elementary and secondary teachers or for curriculum in geography.

Accredited university programs for preparation of teachers have four basic components as shown in Figure 1. Students proceed through a program in a direction indicated by solid lines. Broken lines suggest that each component in the program may be modified as a result of feedback from others. The effective strength of feedback varies considerably depending on the relationships among involved personnel.

A publication listing current certification requirements for each State reveals that only three States specifically require a geography course in the general education component of a teacher's program. On the other hand, U.S. history, government and math are specified for general education in about twenty percent of the States. Subject specialization requirements for pre-service teachers also vary considerably from State to State. For elementary certification, social studies (as opposed to any single discipline) is the usual option with somewhere between twelve and thirty six credits required. Universities may require specific geography courses for elementary social studies teachers, although less than five of the States presently specify one or more geography courses for this specialty (Woellner, 1982). Though this has not been fully documented, it appears to be possible to teach elementary social studies without a single geography course (Manson, 1980).

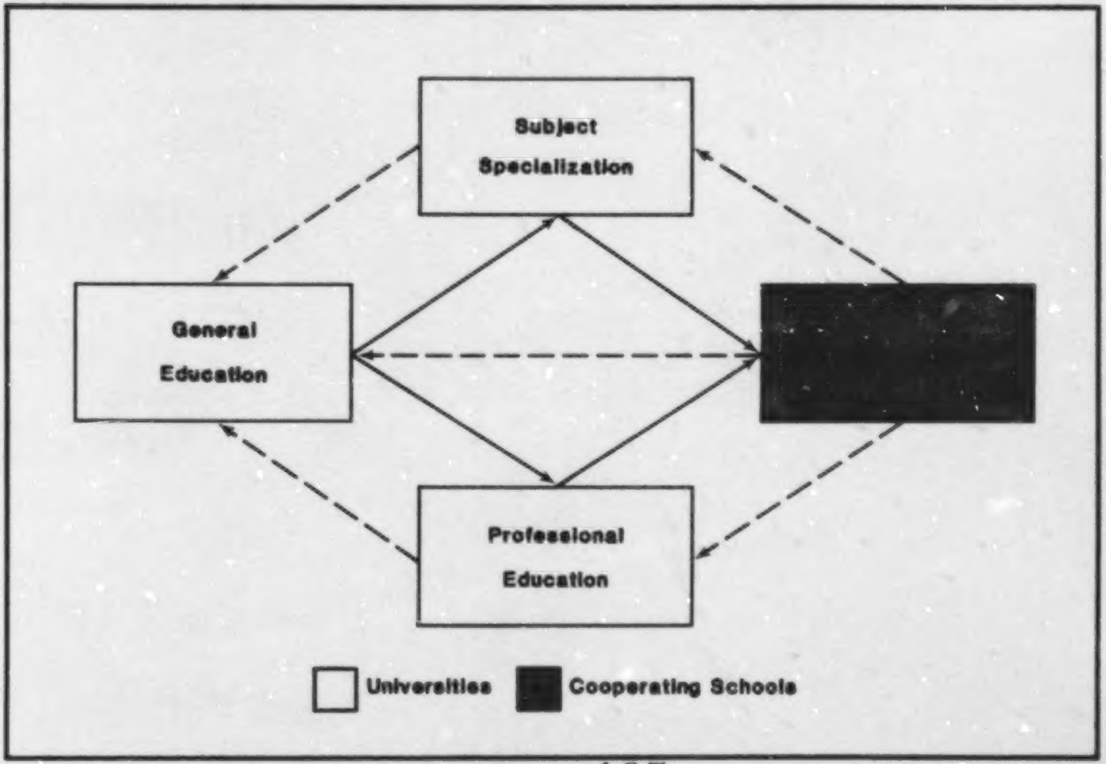
For secondary certification, prospective teachers are encouraged to prepare in two or more social science disciplines or in the broad field of social studies. Based on the published requirements in Woellner (1982) it appears possible to teach high school geography in one state with only six credits of study.

Public Attitudes

Schools tend to be extremely responsive to public opinion in meeting the needs of students and society. When the general public learns through direct experience or published information that young adults are unable to complete job applications, do not participate in elections, know little about comparative pricing or other consumer ideas, read or write poorly, use drugs, or otherwise face problems, the schools in the United States are held responsible. Such responsibility inevitably introduces new trends in social studies (e.g., career education, environmental education, consumer education, global education, multicultural education, and so on) (Marker, 1977). If the trends are lasting, they are incorporated into school curriculum guides, teaching materials published by professional organizations, and commercially prepared textbooks. Effective teacher education programs must be responsive to these trends if teachers are to be prepared appropriately to offer curriculum aligned here with the expectations of the schools. Thus far, perhaps with the exception of global education, the new trends do not appear to be integrated in the training of pre-collegiate geography teachers.

FIGURE 1

TEACHER EDUCATION PROGRAMS IN THE UNITED STATES


Subject Specialization
General Education
Professional Education
Universities
Cooperating Schools

At least one other aspect concerning public attitudes is significant. The public generally regards social studies as less useful than many other areas of the curriculum, including English, mathematics, commercial and shop courses (Gallup, 1978, p. 44). In secondary schools the public sees only civics (or government) and U.S. history as important social studies subjects (Gallup, 1979, p. 40), and these are the two most commonly required courses in the social studies program (Weiss, 1978, p. 26). State certification boards are accountable to this public, as are local school districts. The public encompasses parents of secondary students who choose or reject geography as an elective in their programs. Public attitudes are extremely important in shaping the product development plans of commercial publishers. In assessing the negative effect of the public's attitudes toward social studies, the following statement was made. "The social studies profession has done little to change public perceptions. No systematic program of awareness and advocacy has been developed to counter these impressions and expectations" (Morrissett, Hawke, and Superka, 1980). In comparison to those social studies educators who criticize themselves in this regard, the efforts of American geographers in public image-building have been even less visible. Yet, a positive public image of geography might influence the citizens who set certification or program accreditation standards to expand the number of geography courses required of the pre-service teacher. Further, if the public perceived greater value for student learning in geography, in-service teachers might be encouraged by school administrators to improve their preparedness in the subject and their abilities to teach related knowledge and skills.

A recent poll in the United Stated showed about one-half the respondents felt more time should be spent in schools learning about other nations of the world and the way people live (Gallup, 1980, p. 45). While the question was cast as a concern about global education, as opposed to geography, the response has direct application to the concerns of geographers. Current newspaper editorials also reflect a growing public interest in more and better geography in the public schools (Association of American Geographers, 1982b). These attitudes represent opportunities to capitalize on the interests with renewed efforts to strengthen pre-collegiate geography education and teacher preparation.

Commercially Published Textbooks

Materials for elementary students to read and use are necessary for active learning. Luarning materials that are well-organized, attractive, interesting, academically acceptable, and consistent with schools' goals appeal to teachers. Commercially prepared materials that meet these criteria have a major effect on school programs which depend heavily on textbooks to organize content and provide instructional ideas (Morrisett, Hawke, and Superka, 1980).

Commercial publishers make decisions on the nature and quantity of geography content as they prepare textbooks based significantly on market demands. Textbook preparation is also influenced by the participation or nonparticipation of authors and consultants with specific disciplinary interests. Finally, content and organization of textbooks are shaped by position statements on curriculum from professional organizations.

Many curriculum guides used in local school districts are also influenced by textbooks. A textbook offers subject matter and teaching ideas developed by "experts" in a neat, easy to use package. Ideas are adaptable wholly or in part for curriculum guides that teachers prepare and use. In turn, teacher training programs also feel the influence of textbooks, since State-approved teacher education programs are supposed to prepare personnel to operate in classrooms, using curriculum ideas as they are reflected in the guides of school districts.

Overall, the impact of commercial publishers on social studies curriculum, and thus on pre-collegiate geographic education in the U.S. has been and currently is significant. It follows that increased participation by individuals and organizations of professional geographers in writing, consulting on and setting guidelines for social studies textbooks can improve the quality of geography content and, ultimately, the preparation of individuals who teach the subject.

In summary, influences on the preparation of geography teachers in the United States include four major factors: 1) the social studies curriculum as it is structured in elementary and secondary schools; 2) certification requirements which are not very rigorous when it comes to geography; 3) public attitudes about social studies generally and geography specifically; and 4) the impact of commercially published textbooks. Each category of influences affect all others and all are affected by 5) additional influences (e.g., demographic patterns that change staffing patterns and teachers' assignments; position statements from professional organizations that affect curriculum, textbooks, and accreditation standards; curriculum projects, institutes and workshops, publications or programs that may have limited immediate effect, but which, in the long run, or collectively, may exert considerable influence) (Figure 2).

Recommendations

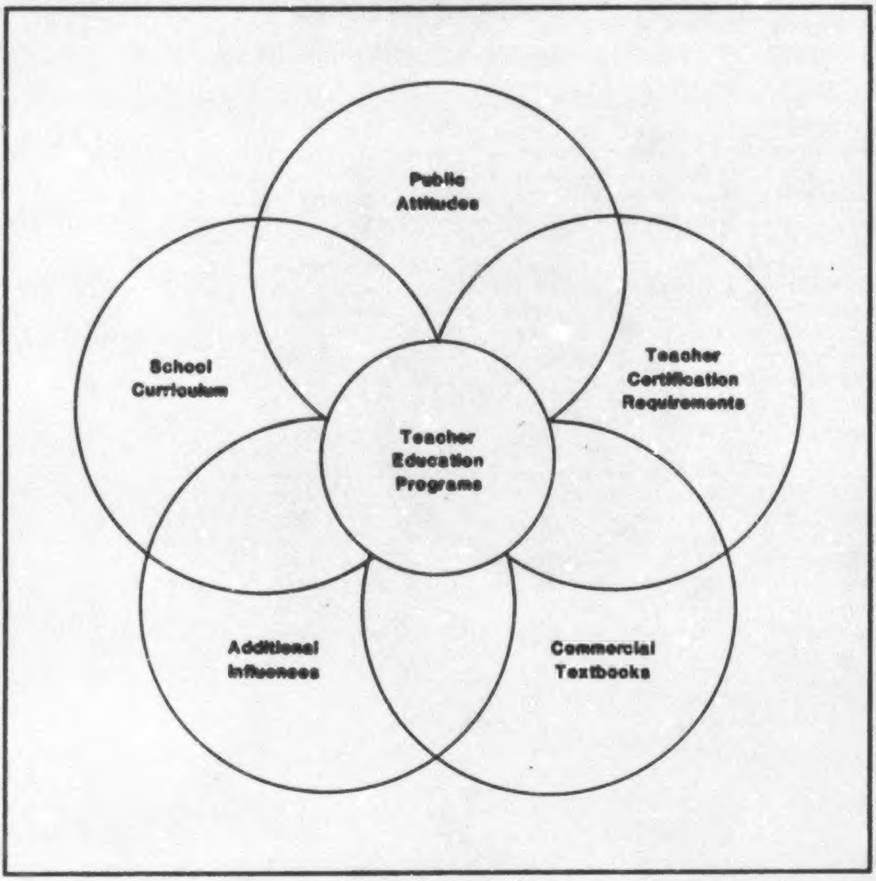
There is considerable overlap in the following recommendations, but they are treated separately for emphasis and to facilitate their evaluation. They are not in an order that reflects priority beyond the fact that the first seems a pre-condition for implementation of the other two. Finally, the recommendations are not intended to be cure-alls, simplistic solutions to interrelated and complex problems. Instead, they are designed to stimulate introspection and then discussion and action, where appropriate.

1. American geographers must give more widespread attention to the well-being of geography as a school subject and to the preparedness of teachers who implement learning.

In a recent editorial comment, the newsletter of the Association of American Geographers contained the following statement, "There is _obviously_ a direct relationship between the health of geographic education in the

FIGURE 2

FACTORS THAT INFLUENCE TEACHER EDUCATION PROGRAMS
IN THE UNITED STATES


Public
Attitudes
School
Curriculum
Teacher
Certification
Requirements
Teacher
Education
Programs
Additional
Influences
Commercial
Textbooks

secondary schools and that of the colleges. Beyond this relationship is the most important charge that confronts practioners of geography at all levels of education: to demonstrate the centrality and necessity of geographic education to the core curriculums at all levels" (Association of American Geographers, 1982a, p. 24 emphasis added).

Indeed, the relationship seems obvious. There are strong carry-over possibilities if one's experiences with geography as school boys and girls are characterized as high level, important, sensitive to multi-cultural considerations, current, and with good teaching. The recollections of these experiences can prevail among university students who select courses and academic majors, among deans and provosts who make administrative decisions about faculty positions or programs, among business and government executives who might hire geographers, and among school personnel who decide whether and how to teach geography. While the relationships seem obvious, however, there are reasons to doubt that concern in the U.S. about pre-collegiate geography education and teacher-training is as widespread among geographers as it needs to be.

The realities have been, in part, influenced by a poor job market for geography and social studies teachers, and thus, small enrollments for geography education programs. University staffing priorities, especially at public institutions, responded to student demand in courses and programs, and thus many academicians with an interest in geography education shifted to different teaching and research specialties. These points help to understand the problem, but they do not change the ultimate result--the number of people directly and actively concerned with improving geography and teaching in the schools is insufficient, and the others are preoccupied with different professional priorities.

Now it may be useful to look at the status and rewards accorded to those who directly address geographic education and teacher preparation. In the context of pedagogical concerns at the college level, the following was offered:

> The road to personal glory is paved with publications in the right journals on substantive geographic concerns; in comparison, a concentration on pedagogical problems leads one down the road to anonymity and relative poverty. Indeed, perhaps only those few who have been successful on the first road can afford to publish on pedagogy (Hill, 1970, p. 53).

In the same vein, Jarolimek said in 1970:

> Often geography departments sense some need to become involved in teacher education, and to meet this need in a token way will make a special faculty appointment for this purpose. Almost invariably the geography credentials of such a faculty member are suspect by his colleagues in his own department...such a professor could not possibly be much of a geographer or he would not involve himself in teacher education (Jarolimek, 1970, p. 429).

More recently, personal conversations and observations among colleagues revealed the professors who engage actively in research and publication on teacher education may be denied tenure because contributions to more highly regarded, substantive concerns are lacking. Further, recognition for professional involvement in commercial geography texts may carry little weight in promotion and tenure decisions, or faculty members with interest in teacher education may be regarded by colleagues as unqualified to serve as department chairs. These are reports that geographers might ignore for lack of documentation. Additionally, the points may not apply to most universities in the United States. Given the small number of professionals, however, who are presently working to improve pre-collegiate geography education and teaching training, there are advantages to thinking about whether they might receive greater encouragement for these contributions.

Currently, geography departments, concerned with survival issues, are preoccupied with program changes to help students enter non-teaching careers, and these are appropriate educational responses to changing priorities on the academic scene. As these changes occur, however, it would seem foolish to ignore that which might be cast as a prior problem--a negative image of geography and geography teaching among several sectors, largely cultivated through reputation or exposure to the discipline in elementary and secondary schools.

Geographers might also demonstrate more concern for pre-collegiate teachers and geographic education with sweeping measures to encourage teachers' participation in the Association of American Geographers and the National Council for Geographic Education. In 1982, 1.3% and 20% of the membership in AAG and NCGE respectively were elementary and secondary teachers (Natoli, 1983; Vining, 1983). While representatives and officers in both organizations would like to see the figures grow, perhaps more dramatic recruitment measures should be supported by the existing membership.

Attention is directed at geographers' publications as well as programs that encourage in-service teachers' attendance at meetings, and their involvement as program presenters and committee members. Summer conferences and the use of appealing sites that encourage teachers to combine travel interests with attendance at meetings are efforts in this connection. Workshops that carry university credit, offered at professional meetings, and involvement of classroom teachers as members of program committees are other measures that are evolving.

Concern for, even devotion to the discipline is characteristic of most American geographers. Only a few, however, specifically and systematically direct their efforts toward improving pre-collegiate education and teacher preparation. The most valiant efforts of a small number of people who receive little encouragement for their work will, in effect, change nothing very dramatically.

2. American geographers must take official positions on geography curriculum in elementary and secondary schools, and on the preparation of teachers who offer the subject either as a separate course or as part of a cross-disciplinary social studies program.

3. American geographers must more effectively articulate messages about the value of the discipline in terms of student and societal needs, and advantages of diversity as well as flexibility in the discipline to help schools meet these needs

Whether one likes it or not, geography in the United States is only one discipline that helps contribute to a child's social education. In this connection, the following statement applies:

> ....whether 'loss of disciplinary identity' and inclusion of all social sciences is good or bad it is a moot question because the fact of the matter is that single disciplines no longer dominate the pre-collegiate social science/social studies area of the curriculum...geographic educators should direct their effort toward a concentrated study of how their discipline can make its strongest contribution to muiltidisciplinary and interdisciplinary curriculum (Williams and Saveland, 1977, p. 58).

How can geography strengthen its contribution to the social studies? First, perhaps it is time for geographers to stop worrying about diversity in the discipline, or eclectism, or lack of unity. Pattison (1964) saw "essential unity" in the traditions of geography. Also, among geographers, like other professional groups and United States citizens generally, interests are pluralistic. Pluralism is revered by Americans at large and academicians particularly. While unity and disciplinary definition might help to defend academic territory and shape research interests, geographers can promote the advantages of diversity and flexibility in the discipline to help elementary and secondary schools augment a child's social education. These advantages must be perceived by the general public and school personnel if the geographic component in training social studies teachers is to be strengthened.

Second, it is time to de-center--to consider perspectives represented by the general public, social studies curriculum planners, and school personnel. Though geographers may be quite certain that the discipline contributes strongly to education for responsible citizenship and addresses student needs, so far, in the United States, we have failed to articulate these messages. Yet, opportunities within the social studies are everywhere. The National Council for the Social Studies curriculum guidelines encourage values considerations around complex global problems like environmental concerns, energy issues, urban problems (National Council for the Social Studies, 1979, p. 265), and refer to knowledge as that which helps "a person perceive patterns and systems in the environment, including a global perspective" (National Council for the Social Studies, 1979, p. 263). Statements with equal pertinence for geographic teaching and learning are found in social studies position papers about global education, multi-cultural education, consumer education, environmental education, and all the other thrusts that reflect the agenda in social studies. Currently, there are signs that geographers have begun to help others make the connections between social studies priorities and geographic learning (Hill, 1981; Association of American Geographers Committee on Geography and International Studies, 1982; Backler, 1982). It remains for teacher of geography at all levels to deal more explicitly with the social significance of geographic learning if the value of this contribution it to be more visible to social studies educators, school administrators and the general public. Once geography's value is perceived by these groups, they will demand improved teacher preparation.

There are surely other links to be developed. Some include geographers' memberships and active participation in social studies professional organizations. When social studies curriculum guidelines or teacher standards are written, when task forces are organized to investigate the status of social studies, participation of geographers is vital.

No list of potential routes for improvement could ever be complete, and the demands related to a short list are excessive. Collectively, the tasks can only be carried forth with the support and active participation of the larger community of geographers. The time is right to recognize connections among the several issues geographers face, and to work cooperatively and systematically on several fronts.

As mentioned earlier, there are no official statements to date on geography curriculum in the elementary and secondary schools and no standards for those who teach geography. It is encouraging that the Association of American Geographers and the National Council for Geographic Education are jointly considering the matters through the ad hoc Committee for Geographic Education. Subcommittees have been designated to develop guidelines for teaching geography in secondary schools; examine State certification requirements for teaching geography in the U.S.; and examine ways to promote geography and geography education in this country. There are also plans for a fourth subcommittee to look at ways to promote geography learning in the social studies curriculum (Natoli, 1983).

The significance of these efforts should not be underestimated, and there is special importance attached to the development of curriculum guidelines for geography. These can influence accreditation of certified programs and textbook treatment of geography, and be used by local school districts in establishing curriculum goals and objectives. Additionally, curriculum guidelines can be linked to competencies expected of geography teachers; these in turn, can help establish certification standards and shape specific objectives for pre-service and in-service teacher education programs.

It would seem valuable to expand the guidelines to incorporate elementary as well as secondary curriculum. Examples of influential guidelines published by other professional organizations can serve as modes. These usually focus on broad guidelines for knowledge, skills and attitudes, as well as student readiness, teaching and learning styles, and evaluation. All but the broadest matters are left to school personnel, allowing local entities to reconcile district goals for students with curriculum recommendations from professional organizations, and even to decide on grade level designations. This structure implies that classroom teachers know best about implementation of learning and grade level assignment in terms of their students' prior experiences and the goals of the local community.

It would also be useful to involve classroom teachers in each State to work on curriculum guidelines (as well as other areas). The teachers' contributions will be valuable if the committee's product is to be useful, widely supported, and if implications for teacher preparation are to be identified and confronted early. It is worthwhile to recognize that classroom teachers are the ultimate curriculum developers, and their advice is valuable in the long run.

Hopefully, the organizations of professional geographers will produce a statement on standards for those who teach geography across the grade levels. In an age of increasing accountability for professionals in the United States, the discipline must address means to assure quality instruction by its practitioners. Further, these standards are badly needed to guide teacher training institutions to offer worthwhile in-service, as well as pre-service, experiences.

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THE SYSTEM OF PREPARING STUDENTS AT THE PEDAGOGICAL INSTITUTES FOR GEOGRAPHY TEACHING, USSR

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The discipline "Teaching of Geography" is a particular focus of the professional pedagogical teaching of students. Studying this discipline, students widely use their knowledge in pedagogics, psychology and all the geographical subjects, that they had previously acquired, and learn to apply it in their practical teacher's work. The requirement to improve the level of the professionalism of future geography teachers grows constantly. It is caused, on the one hand, by the increasingly scientific nature of the content of school geography. For example, to explain to school children scientific theories, laws, or to characterize general concepts is obviously more difficult for a teacher than to provide them with facts. On the other hand, developments in curriculum theory have stressed the importance of promoting the cognitive activity of the school children by organizing their independent work, and using a problem solving approach, that also requires special education of a teacher. The discipline "Teaching of Geography" is one of the final courses at the Institute of Education. It is studied at the 4th and 5th course levels.

The professional pedagogical knowledge and skills in the field of school geography that the student must achieve include the following:

1. understanding of the aims and objectives of geography teaching at school as a whole and of its separate components;
2. knowledge of the structure and content of geographical education;
3. understanding of the relations between the geographical sciences and the contents of school geography;
4. knowledge of inner connections in the content of school geography;
5. understanding of local geographical, ecological and polytechnical principles in geography teaching;
6. knowledge of the particulars of methods, forms, and resources available for geography;
7. knowledge of geography teaching equipment and the ways of using a geography classroom in the process of teaching;
8. knowledge of different types of lessons in geography and their didactical peculiarities;
9. knowledge of the contents and forms of organization of outdoor work in geography;
10. skills in planning all the forms of classroom and outdoor work in geography (in particular to plan the study of different topics of the curriculum and lessons, outdoor work and excursions);
11. skills in using creative as well as reproductive methods of geography teaching to develop thinking and cognitive activity in school children;
12. skills in introducing problem solving approaches into the system of geography teaching (to create problem situations, to teach the students to solve problems, formulate, and check hypotheses);
13. skills in organizing the work of the learners with the help of all the most important resources for geography teaching (maps, textbooks, films, pictures, etc.); and

14. skills in using theoretical and methodological knowledge in solving practical problems.

Important components of the professional pedagogical teaching of students are their knowledge and capacity for self education and for scientific research in the field of geography teaching. Included here are:

1. the knowledge of the subject and problems of scientific research in the field of school geography, and awareness of the connections between the other psychological and pedagogical sciences and geography; and
2. skills in defining problems, making a plan of the study of the chosen question and using different methods of pedagogical research including pedagogical experiments.

The system of preparing students for geography teaching consists of a course of lectures, practical studies, pedagogical practice, special courses and students' scientific work. The contents of the students' education are determined by the curriculum approved by the Ministry of Education of the USSR. There also is a special curriculum for pedagogical practice.

The course of lectures covers theoretical and methodological bases of geography teaching. It consists of two parts. The first is devoted to the general questions of geography teaching, the second to the study of separate school courses of geography, the elementary course of physical geography (5th Form), the geography of continents (6th Form), physical geography of the USSR (7th Form), and economic geography of foreign countries (9th Form).

The first part of the course begins with the analysis of methodological questions: the subject and problems of research in school geography, its connections with other sciences, the characteristics of the modern period of its development, its methods and logic of investigation, and the connection of methods of geography teaching with the practical work at school.

The second topic is the history of school geography. The next topic is devoted to the aims and contents of geographical education. It is important to explain to the students the significance of the category: "aims of teaching," the necessity of determining "the aims of teaching" while working out curriculum, textbooks and planning the study of separate topics and lessons. The concept of the structure of school geography is analyzed. Special attention is paid to the analysis of the relation of the geographical science and school geography. The students need to understand that a school subject has to reflect the heart of the science, but at the same time the aims of the school and the needs of the school children at different ages must be taken into consideration. It means that in school subjects it is important to achieve the optimum correlation of the logic of the science and the logic of process of learning.

In the topic "methods of teaching geography" the students get acquainted with the systematization of methods of teaching, based on the characteristics of the learning activities of the pupils, with the nature of reproductive and creative methods of teaching that are of great importance for the correct organization of the independent work of learners. The characteristics of the problem solving approach also occupy an important place. Special attention is paid to the questions of the structure and ways of using textbooks in geography, to work with maps, screen materials, pictures, and statistics. The first part of the lecture course also includes such topics as "the geography lesson," "teaching excursions," and "outdoor work."

Ways of implementing the problem solving approach at the lectures on the teaching of geography are being worked out. One of these ways is to explain to the students those questions of teaching that have no single situation or provoke different opinions. These are, for example, varying ideas about the structure of geography teaching, systematization of the methods of geography teaching, etc. Another way is to build in a problem structure into a lecture, the logic of which is aimed at solving a certain problem. During the lecture the lecturer explains to the students, for example, the difficult and contradictory ideas about cognition. For instance, at the beginning of a lecture "the contents of school geography" one can formulate a problem: "how to provide a high scientific level in school courses of geography, and at the same time make them accessible for the learners." The content and logic of the lecture are determined by solving this problem.

Though the main place in the lecture is occupied by theoretical statements, these must not be separated from the practical experience of geography teaching in school. The examples of generalized school experience, on the one hand, are as important as illustrations, and on the other hand, help the lecturer to show the way the theory had developed and its constant connections with practical work.

In the practical studies the students learn to solve problems typical of the work of the school geography teacher. Much time is given for independent work with the school curriculum, textbooks, atlases, and other sources of geographical information. The students are expected to fulfill, for example, such tasks as: to determine the aims of a lesson and to describe them; to select the teaching material and methods of teaching for the lesson; to develop the skills, practical and intellectual, that will be used by the learners while studying certain questions of a topic; to formulate cognitive problems for the learners, which provide problem situations in the lesson; to work out a fragment of a lesson, or a lesson as a whole, etc. In the course of practical studies it is important to achieve a combination of the theoretical and practical teaching of the students, to get them used to applying the theoretical knowledge gained at the lectures in solving practical problems. The discussion of the variants of the lesson and teaching methods help in achieving this aim.

The results of the pedagogical practice and the performance of young teachers show that the most difficult things for them to achieve are the organization of the independent work of the school children, and the problem solving approach. That is why special attention is paid to consideration of these questions during the practical studies.

Pedagogical practice takes place in the 4th year of education and lasts for 4 weeks and in the 5th year for 6 weeks. At this time the students do not attend courses at the Institute. All their time is given to work at school. The pedagogical practice is applied to solve a complex of problems, connected with the education of a future teacher. Its most important aims are the following:

1. to teach the students to apply in practice their knowledge in geography, psychology, and pedagogical sciences;
2. to develop the ability of leading classroom and outdoor work with the school children of the 5th-9th forms; and
3. to develop an interest in the pedagogical work in school, part of the personal role of a geography teacher.

In the course of pedagogical practice the students give lessons in physical and economic geography, organize outdoor work with the school children, make use of the equipment of the geography classroom, etc.

The work of the students also includes the study of the work of experienced teachers. In some cases they also conduct scientific research into certain questions of geography teaching.

Special courses are an elective form of studies. Topics differ in different pedagogical institutes. They usually reflect the scientific interests of the professors, for example, "local geography," "ecological education of the schoolchildren in the course of geography education," "outdoor work in geography," etc.

The students have the right to choose a specialism (geography, pedagogics, psychology, teaching of geography) for their scientific research. If a large proportion of the students choose school geography, it may serve as a signal of their commitment to the work of a geography teacher. We shall give examples of the topics of students' research: "local geography principles of teaching in one of the courses of physical geography with biology (or physics)," "planning of lessons on one of the topics in physical or economic geography with the help of the problem solving approach in education," and "independent work of school children with maps." In their scientific work the students usually do not limit themselves by studying the literature only, but also conduct some work at school. This work includes the study of the school teacher's experience and the organization of the pedagogical experiment. It is also recommended that the students should follow certain general principles as to the logic of a scientific research that presupposes determination of the aims of the work, its main problems, the working out of the hypothesis of the research, the planning of the work, and the formulation of the results.

The scientific research of the students in the field of geography teaching is an important aspect of the development of the creative personality of the future teacher. In the Soviet Union not only scientists take part in the pedagogical research, but also many school teachers.

Scientific conferences at regional, republic, and all-union levels are systematically organized. At these conferences the best reports that reflect varied experience of teaching and the results of scientific research are read. Collections of teaching reports are published. This determines the growing attention in the teaching of students to the methods of scientific research in the field of geography teaching.

A significant role in the professional pedagogical teaching of students is given to the promotion of intersubject coordination. In the process of teaching at a Pedagogical Institute, intersubject coordination has not only general pedagogical importance (the raising of the scientific level of teaching, the development of the school children), but also has a specific function. It prepares the students for the application of intersubject coordination in school, and helps to promote the ability and commitment to undertake the complex analysis of phenomena, necessary attributes for a modern teacher. During the studies in geography teaching, the students must use their knowledge in pedagogics, psychology, and all the geographical subjects.

One of the particular variants of intersubject coordination in the process of teaching at a pedagogical institute is the professional or pedagogical orientation of the study of geographical subjects. It means that both the content and methods of teaching these subjects are aimed at the future work of the students as school teachers. As part of this aim, special attention is paid, for example, to those topics that are considered most difficult in school education. In some of the studies of geographical subjects, defective methods of teaching are used to simulate the operation of similar questions at school. In certain courses it is the practice to compare Institute and school textbooks and atlases. Professional orientation in the study of geographical subjects is a major source for improving the education of future geography teachers.